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## III.

### AS TO RECOMMENDATIONS FOR A DECREE


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**(Unless otherwise indicated, the page numbers herein refer to the Special Master's Report)**

Now comes the State of Washington, complainant in the above entitled action and excepts to the Report of Honorable William W. Ray, Special Master, heretofore filed herein and for causes of exception shows the following:

## I.

### As to Findings of Fact

1. That said report passes over and fails fully to consider physical conditions of the stream system which the record shows have an important bearing on the issues and should be fully considered by the Court in determining the case, in that said report (1) assumes that the summer flow of the Walla Walla River is sporadic and unreliable (page 53) when the record shows that said flow is reasonably certain and constant; (2) assumes that the landowners of Oregon have continuously diverted during the summer all the waters of the main stream at the Red Bridge and used the same beneficially since 1880 (page 54) when the record shows that to have done so in 1880, the land then under irrigation would have had to have used from 8 to 13 acre feet per month, an amount of water which is far in excess of any allowance known to modern irrigation practice; (3) assumes that because about a mile of the channel surface of a section of the main stream (Tum-a-lum section extending from 3 to 4 miles above the state line in Oregon) becomes dry when diversions are made above, no water is running down the stream (pages 53-54) when the record shows there is a continuous subsurface flow at all times; (4) assumes that the main flood channel of the river is

the only natural channel through which water runs in the stream system down to the State of Washington (page 58) when the record shows that there are other natural channels through which water may continually flow from the State of Oregon down to the State of Washington; (5) assumes that the supply of water of the Mill Creek watershed of the Walla Walla river to which Washington has exclusive access for practicable beneficial use constitutes Washington's equitable portion of the summer waters of the Walla Walla River stream system, when the record shows that the flow of the Mill Creek branch constitutes only about one-fourth of the available flow of the river system; (6) assumes that the large use of old abandoned stream channels on the alluvial fan for distribution of water in Oregon constitutes an economical system of water distribution, when the record shows that approximately 30% of the water diverted from the river is lost in these channels; (7) assumes that the maximum per acre award of water in the general decree of the Oregon Court (Wash. Ex. No. 1) shows the proper water requirement for Oregon lands, fails to give proper consideration to the limitation in said decree that in no case shall the amount of water used exceed the amount reasonably required for beneficial use (page 76) when the record shows that the standard amount fixed by the State Engineer in all water permits for use of water in this vicinity is only 33⅓ per cent of the normal allowance in said decree, while for many small tracts of less than one acre in area, water is awarded by said decree at varying higher rates up to as high as 10 miner's inches per acre; (8) disregards the existence of waste water from the channels and ditches

in Oregon sufficient to irrigate, irrespective of priority and which is used to irrigate annually approximately 700 acres of land, as having any evidential bearing on the waste of water in Oregon, when the record shows that such water, in most instances, arises from careless and excessive use; (9) disregards the existence of over 300 wells situated in and used for the irrigation of lands in the contested area in Oregon (page 108) when the record shows that the unregulated use of these wells for irrigation in Oregon tends to deplete the hydraulic head of the river system and lessens the supply of water available for use in the State of Washington; (10) disregards the character of the stream flow which varies from year to year and affords more than average quantities of water longer into the summer in some seasons and earlier in the fall in some seasons, and assumes that Oregon is entitled to all the water of the stream including all excess water during the entire irrigation season regardless of the stream supply, when the record shows that during the irrigation season in each year water has always run in the natural stream system from Oregon to Washington and has been utilized from early times and is now used by Washington water users; (11) disregards the necessary drainage flow of the river in concluding that the stream system in Oregon has become a separate system not connected with the river system in Washington during the summer season, when the record shows that there is no possible escape of the drainage of the river system in Oregon except down to and through the river system in Washington; (12) disregards the correlated water supply of the various distributaries of the

Walla Walla River in Oregon, including the Little Walla Walla, Crockett, Ford and Spring Branches, when the record shows that they are as much a fundamental part of the stream system as the main stream in that state.

2. That said report does not properly present the evidence or conclusions therefrom in that said report (1) states that "Without protest, so far as the record shows, the City of Walla Walla, Washington, went into the State of Oregon at the headwaters of Mill Creek, a tributary of the Walla Walla River, and secured for itself a dependable supply of water for domestic and culinary uses. While this water right is not in controversy, the fact of its development and use indicates that the State of Oregon had permitted water from the available supply to be taken, appropriated and used exclusively within the State of Washington" (page 52), when the record shows that because of physical conditions there is no feasible beneficial use of which the State of Oregon can make of the water of Mill Creek and the permission to use this water which Oregon has given Washington is not strictly speaking voluntary but one of necessity; (2) states that "An agricultural community cannot develop and maintain itself on sporadic supplies of water" (page 53), when the record shows that the summer low water flow of the Walla Walla River is fairly certain and constant; (3) states that "In this connection it is further significant that during the period of high water the Washington users do not need to impinge upon the Oregon users" (page 63), when the record shows that the use of water during the period of high water when the supply is more than ample for all uses in both states

is not in controversy; (4) states "That in 1920 a headgate was constructed in the channel of the Tum-a-lum River under the direction of Carl Hartvedt, Superintendent of the Gardena project, which headgate was designed to divert the waters of the Tum-a-lum River into the Hudson Bay Canal. This of course was ample notice of the intention of the Hudson Bay Company to take the water and that it was taken with the knowledge and consent of the Walla Walla Irrigation Company" (pages 63-64), when the record shows that the controlling interest in the two companies in question had common ownership, that the two companies had common management, and that the arrangements at that time between them for the use of water was mutual, and that they were using their respective irrigation works for winter irrigation as well as for summer irrigation so long as water was available; (5) states that "When on April 23, 1930, the first of the above telegrams" (Telegrams between State Engineers, Wash. Exs. Nos. 24, 25 and 26) "was sent, the Gardena Canal had been receiving since April 1, 116 c.f.s. of water under a decree allowing it but 66.67 c. f. s. during this period, and on April 22nd, the day before that telegram was sent, the amount of water the Gardena Canal was receiving had been reduced to 68 c. f. s., an amount still near its decreed right. (Barney, Wash. Abs. 39, Wash. Ex. No. 18, p. 21) In 1930 the Washington water master, Barney, did not begin to regulate Washington users until June 10th and did not close all rights with priorities subsequent to 1892 until July 6th" (page 66), when the record shows that it is the practice in both states to encourage early irrigation when water is plentiful to store water in the soil and to relieve to some extent

the critical period of low water and that the relation of the stream branches in Washington and the relative priorities of rights thereon are such that the later regulation of them does not in itself indicate that the State of Washington was not at that time deprived of water, to which it was entitled, from the State of Oregon; (6) states (referring to the attempts of the manager of the Gardena project to secure the sewerage supply of the City of Walla Walla and to secure additional water by sinking wells) that "This conduct seems entirely inconsistent with the present claim made by the plaintiff state" (page 69), when the record shows that during the period these attempts were being made, the supply of the main stream from Oregon available for the Gardena intake was greater than it has been in more recent years because of the extended use of water in Oregon in the later period; (7) states that "During the period after the recession of the high waters in the tributaries of the Walla Walla River, none of the waters arising above the Red Bridge were ever applied to a beneficial use within the State of Washington" (page 72) when the record indicates that there is a subsurface flow in the channel of the river from Oregon into Washington; (8) states (Referring to the opinion in the case of *U. S. v. Haga*, 276 Fed. 41, written by Judge Dietrich, wherein it was held that upper water users on a stream which disappears should not be shut off for lower users on the reappearing water section of the stream where the upper stream makes no contribution during the irrigation season to the reappearing section of the stream) that "The Washington Court in fixing the limitations upon the Gardena right must have proceeded upon the same theory as that adopted by

Judge Dietrich. It will be observed in the decree that the Gardena right is given a priority of 1892, except that certain users with priorities subsequent to 1892 were made prior in right to the Gardena right" (page 73), when the record shows that this limitation was necessary because of the recognition in some of the existing decrees of the dual system of rights in the State of Washington whereby riparian rights, as well as rights by appropriation, had to be reconciled so far as possible in the general decree (Wash. Ex. No. 11) adjudicating the rights on the Walla Walla River in Washington; (9) states that "The record in this case is without dispute that from 1892 until the date of the trial of this case, those claiming the right to irrigate the Gardena tract have not applied any of the waters of the Walla Walla River arising above the Red Bridge, during the low water period, to the irrigation of their lands, and that during the high water season their rights have been adequately supplied by the Washington tributaries" (pages 73-74), when the Hydrographic Data (Wash. Ex. No. 18) submitted in evidence before the Special Master shows that a substantial source of the water diverted by the Gardena Canal during part of the low water period, as well as during the high water season, has been from the main stream of the Walla Walla River coming down from Oregon. The principal tributary of the stream in Washington, Mill Creek, enters the stream below the Gardena intake. The only other Washington tributary contributing any substantial amount of water is Yellowhawk Creek (a distributary of Mill Creek) which has not sufficient capacity to satisfy the Gardena appropriation; (10) states that "The Wash-

ington Court found in 1928 in the *Achermann* case, in which case the Washington rights to the use of the waters of the Walla Walla River were adjudicated, that the use of water on the Oregon side is a benefit and not a detriment to Washington users (Wash. Ex. 11, p. 4 of Referee's Report)" (page 74), when the language of the said referee as quoted by the Special Master is that the *early* use of such water when the supply is usually *abundant* serves a double purpose, etc.; (11) states that "In order to so apply the doctrine of abandonment it would be necessary first to find that the appropriators in 1901 and 1902, when they posted their notices of intention, and thereafter while they were constructing their canals, had the purpose to take and use the water then being diverted in Oregon and, under the law and with due diligence to apply the same to beneficial use within the State of Washington. Such intention is not shown by the evidence or the conduct of the claimants" (page 75), when the declaration in the notice of appropriation (Stipulation No. 5) states that the appropriators intended to appropriate the waters of the Walla Walla River without any exception as to the river and its tributaries in Oregon and when the record shows that until 1928 when the relative rights on the river and its tributaries in Washington were finally adjudicated, the waters of such tributaries were not definitely known or regulated so as to furnish any substantial amount of water from these tributaries in Washington to the main stream above the Gardena intake, and the principal supply of water in the main stream for the use of the Gardena project came from the river system in Oregon; (12) states that "It is significant at this point to observe

that notwithstanding the existence of the No. 3 lands along Mill Creek within the State of Washington the State of Washington called no practical irrigators to show that in their experience upon the Mill Creek lands a lesser quantity of water than that claimed by the State of Oregon for similar lands is sufficient for the proper irrigation and maturity of crops'' (page 80) when the record shows that the No. 3 soil area along Mill Creek above the City of Walla Walla and along said creek and along Stone Creek below and southwest of said city, are extensively cultivated on the high duty of water (.4 miner's inch per acre) provided for in the Washington decree (Wash. Ex. No. 11); (13) states that ''The evidence shows without contradiction that the water pumped from the wells is used exclusively upon the tract of land on which the well is located. If the Washington contention that the water pumped is, in part at least, water diverted from the river and applied to the lands and lost in deep percolation, then the user of the land would have the right to recapture the water and beneficially reuse it'' (page 108), when the record shows that in many instances the landowner is using water from his well for irrigation when the priority of his right on the stream is in the class of later rights not entitled to use at that time and which is shut off. The rule of recapture does not advance the priority of the water user's right.

3. That said report is incomplete in that it fails to present for the consideration of the Court (1) the review of any evidence or a summary thereof concerning the use of water from the branches of the river above the gap in the canyon at Milton where no regulation of the

use of water is had or attempted; (2) the review of any evidence or a summary thereof concerning the diversion of water for the Milton ditch where water is diverted from the river through old river channels and measured at a point about a mile from the diversion point and the amount diverted is so excessive as to furnish at the end of the ditch water for irrigation of a considerable acreage of land having no legal rights to water from the river; (3) the review of any evidence or a summary thereof submitted by Washington witnesses tending to prove that the summer supply of water in the main stream of the Walla Walla River in Washington has been diminished in recent years by the increased use of water for irrigation in Oregon; (4) the review of any evidence or a summary thereof submitted by Washington witnesses tending to show that prior to the final adjudication of the relative rights on the tributaries of the Walla Walla River in Washington in 1928 and the later regulation thereof, the waters of these tributaries were all used by the water users along the tributaries and said tributaries contributed little water during the summer season to the main stream for use of the Gardena project, the water for which during the early period of its development came almost exclusively through the main stream from Oregon.

4. That said report fails to give full consideration to the agreement of the two states as to the rights, as between the parties to this cause, on Mud Creek and its tributaries and on Pine Creek and its tributaries set forth in Stipulation No. 2 wherein it is provided that the rights on these streams are hereby established, and shall be administered, and the water shall be distributed to

such rights, in accordance with the decrees of the courts of the two states and the permits for the appropriation of water issued by authority of the two states, in the same manner as if the State line did not exist, and there are no issues herein in respect thereto, in that it recommends a dismissal of the action without giving effect to this agreement.

5. That said report erroneously states the law relative to appropriation in the State of Washington in that it states that the law controlling the appropriation of waters in force in 1891 is a certain statute, part of which is quoted on page 67 of said report. But said report fails to state that said statute is not exclusive and that rights by appropriation may be initiated and consummated in the State of Washington irrespective of and without compliance with such statute.

6. That said report (pages 59-75) erroneously considers, discusses and passes upon evidence concerning the initiation and development of the Gardena water right, which evidence was submitted over the valid and timely objection of the State of Washington, that such evidence was not material or relevant to the issues involved in the case for the reason that under the facts and the laws of Congress, the State of Oregon cannot in this controversy question the validity of the Gardena appropriation or its priority date. (Wash. Abs. 258)

7. That the following findings in the summary of the findings contained in said report are hereby excepted to for reasons heretofore mentioned herein, as not sustained by the law or the evidence:

(1) The following in Finding No. 5 (Page 110): "When the Tum-a-lum River enters Washington it is thereafter called the Walla Walla River. Irrigators in Oregon have, during the irrigation season, for more than fifty years prior to the beginning of this action diverted all of the waters of the Walla Walla River in Oregon away from the channel of the Tum-a-lum River, and used the same for agricultural, power, municipal and domestic purposes."

(2) The following in Finding No. 8 (Page 111): "There is no satisfactory proof that the use of the water from these wells materially lessens the quantity of water available for use within the State of Washington."

(3) Finding No. 11. (Page 111)

(4) The following in Finding No. 12 (Page 112): "The entire development of the Gardena project had been without the use, during the irrigation season, of any waters of the Walla Walla River arising above the Red Bridge. Where there is water in Oregon in excess of the requirements of the Oregon users, there is normally an excess in Washington over the amount necessary to supply rights with priorities senior to the Gardena right. There is no satisfactory proof that to turn down water past the Red Bridge in Oregon during the period of water shortage would be materially more advantageous to Washington users than to permit such water to be applied to surface irrigation in Oregon. The channel of the Tum-a-lum River between the Nursery Bridge and the McCoy Bridge is an extremely wasteful channel. Water turned past the Red Bridge sinks and becomes part of the underground waters. A substantial part of

the water applied to irrigation in Oregon likewise goes into the underground water supply. During the period from 1892 to 1930 the Gardena users did not have the use of any water of the Walla Walla River during the irrigation season arising above the Red Bridge. They did nothing to indicate a claim to any of such water. On the other hand, with knowledge of the fact, they permitted the Oregon users to develop their communities in reliance upon the right to the use of the water. To limit the long established use in Oregon would materially injure Oregon users without a compensating benefit to Washington users."

(5) Finding No. 13. (Page 113)

(6) Finding No. 14. (Page 114)

(7) Finding No. 15. (Page 114)

II.

As to Legal Conclusions

And the complainant excepts to the Special Master's conclusions of law in that:

1. Conclusion No. 2 (Page 114) and subparagraphs (a), (b), (c) and (d) thereof are not sustained by sufficient evidence and are contrary to law for reasons heretofore specified under exceptions to the Master's Findings.

2. Conclusion No. 3 (Page 115) is not sustained by sufficient evidence and is contrary to law in that

(1) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and impliedly approves the diverting, the permitting of the use of, and the apportion-

ing and distributing of, water by the State of Oregon from the Walla Walla River and its tributaries in the State of Oregon to satisfy rights for lands in Oregon junior in priority, as set out in the decrees and abstracts of permits in evidence herein, to that of the diverters and water users affected thereby in the State of Washington, when the supply of water in said river system is insufficient during the summer season to satisfy senior rights in Washington and said report concludes that such use in Oregon is equitable as between the two states in this action.

(2) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and impliedly approves the unnecessary waste of water in the distribution of water in Oregon, in times of water scarcity in the stream system in Washington.

(3) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and impliedly approves a duty of water for irrigation lower than required to raise crops in Oregon and many times lower than that used successfully on similar soils in the State of Washington.

(4) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and impliedly approves a plan of distribution in use in Oregon whereby excess diversions are not required to be returned to the natural stream but are used as waste water without limitation by those not legally entitled thereto.

(5) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states

on an interstate stream and impliedly authorizes the upper water users in one state on the stream to divert all the waters of the stream without limitation and without regard to the relative priorities of the lower water users in another state.

(6) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and impliedly applies the doctrine of prescription to the wasteful, excessive and improper use of water in the State of Oregon.

(7) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and proposes a division of the water of the stream system whereby the lands in Washington, having a greater population and a greater irrigated area, are allotted less than one-third of the water available for beneficial use in the stream system.

(8) Said conclusion No. 3 (Page 115) erroneously disregards the equities existing between the two states on an interstate stream and improperly concludes that the waters of the stream system cannot practicably be apportioned between rights in the two states substantially on a relative priority basis, when such apportionments are repeatedly being successfully made under similar physical conditions by the Courts of our arid land states.

## III.

### As to Recommendations for a Decree

And the complainant excepts to the Special Master's recommendations for a decree (Page 115) in this:

1. That said recommendations disregard the agreement of the parties to this action relative to the water

rights on Mud Creek and its tributaries and Pine Creek and its tributaries, which is set forth in Stipulation No. 2 herein and the same should be included in a decree in this action.

2. That said recommendations disregard the water rights of the respective citizens of the two states to waters of the stream system and their relative priorities when the supply of water is sufficient or partially sufficient to supply the rights in each state and in effect awards the entire water supply of the stream system without limitation in time or quantity of use to the State of Oregon and its citizens.

3. That said recommendations are inequitable and are not sustained by the law and the evidence.

Respectfully submitted,

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GEO. G. HANNAN,
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FRED J. CUNNINGHAM,
*Special Counsel,*

*Counsel for Complainant,*
*State of Washington.*

IN THE

# SUPREME COURT

OF THE

UNITED STATES

IN EQUITY

---

No. 11 Original

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OCTOBER TERM, 1935

---

THE STATE OF WASHINGTON,
*Complainant,*

v.

THE STATE OF OREGON, *Defendant.*

---

## PROOF OF MAILING MOTION FOR LEAVE TO FILE COMPLAINANT'S EXCEPTIONS AND COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

---

STATE OF WASHINGTON,
County of Thurston } ss.

The undersigned being first duly sworn on oath deposes and says that on the 13th day of November, 1935, at Olympia, Washington, he deposited in the United States Postoffice in sealed envelopes, one addressed to "Mr. Isaac H. Van Winkle, Attorney General, Salem, Oregon," one addressed to each "Mr. James A. Fee and Mr. Charles Z. Randall, Pendleton, Oregon," and one ad-

dressed to "Mr. George T. Cochran, LaGrande, Oregon," true copies of the Motion for Leave to File Complainant's Exceptions and Complainant's Exceptions to the Report of the Special Master in the above entitled cause.

Dorothy Hanson

Subscribed and sworn to before me this 13th day of November, 1935.

Jennie M. Tatterson

Notary Public, residing at Olympia, Washington.

My commission expires Nov. 25-1935

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IN THE

# SUPREME COURT

OF THE

UNITED STATES

IN EQUITY

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NO. 11 ORIGINAL

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OCTOBER TERM, 1935

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THE STATE OF WASHINGTON, *Complainant,*

vs.

THE STATE OF OREGON, *Defendant.*

---

## BRIEF OF STATE OF WASHINGTON UPON COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

---

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STATE PRINTING PLANT

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## EXPLANATORY NOTES

The rights of the two States to the waters of Mud and Pine creeks and their respective tributaries have been settled by stipulation No. 2 herein. Certain other streams and tributaries lying to the west of the principal area in controversy have been eliminated from consideration herein by said stipulation. The remaining streams of the Walla Walla river system are in issue in this case. These remaining streams, and the area where the individual rights therein are being used, have been referred to in the record in this cause, as the *related* stream system and the *related* area, respectively. These terms with the same import will be used in this brief.

The following abbreviations herein refer respectively:

Ore. Abs.—Oregon Abstract of Testimony.

Wash. Nar. T.—Washington Narration of Testimony. (These are part of record by stipulation of September 21, 1935, approved by order of Court of October 14, 1935.)

c.f.s.—Cubic foot per second of time.

Bill of Comp.—Bill of Complaint.

Wash. Ex.—Washington Exhibit.

Ore. Ex.—Oregon Exhibit.

Sp. M. R.—Special Master's Report.

IN THE

# SUPREME COURT

OF THE

UNITED STATES

IN EQUITY

---

NO. 11 ORIGINAL

---

OCTOBER TERM, 1935

---

THE STATE OF WASHINGTON, *Complainant,*

vs.

THE STATE OF OREGON, *Defendant.*

---

## BRIEF OF STATE OF WASHINGTON UPON COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

---


G. W. HAMILTON,
*Attorney General,*

GEO. G. HANNAN,
*Assistant Attorney General,*

FRED J. CUNNINGHAM,
*Special Counsel,*

*Counsel for Complainant, State of Washington.*

The State of Washington, by its Attorney General appearing in that behalf and with the authority, consent and direction of the Governor of said State, comes now and, in accordance with the Order of this Court of October 14, 1935, granting the parties permission to file briefs upon exceptions to the Special Master's Report herein, submits its brief upon complainants' exceptions to said report for filing in said cause.

By G. W. HAMILTON,
*Its Attorney General,*

GEO. G. HANNAN,
*Assistant Attorney General,*

FRED J. CUNNINGHAM,
*Special Counsel,*

*Counsel for Complainant,*
*State of Washington.*

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# BRIEF OF STATE OF WASHINGTON UPON COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

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## I.

## STATEMENT

### 1. TERRAIN OF THE STREAM SYSTEM

#### *a. Geological Formations*

This case involves the relative rights of the States of Washington and Oregon in and to the waters of the Walla Walla river, a non-navigable interstate stream rising in the State of Oregon and flowing through terri-

tory in the State of Washington. It is thought that the argument herein upon the exceptions to the Special Master's report will be made clearer by setting forth at the outset some of the characteristics of the stream system concerned and other matters necessary to an understanding of the issues involved.

The valley of the river and of its tributaries is underlaid with bedrock. The rock is folded in the form of a canoe-shaped basin, the deepest part of which lies in the region between Touchet and Lowden in Washington and about on the state line. There the bedrock is first reached somewhat below sea level and several hundred feet below the land surface. The bedrock gradually rises outward and entirely surrounds the greater part of the valley except in the west where there is a very narrow gap through which the stream escapes. In this canoe-shaped depression, the streams, in earlier ages, have laid down three principal deposits which make up the valley proper. (Wash. Nar. T. pp. 223-4.)

The oldest of these deposits has been termed the Gardena terrace. In the southwest portion of the valley in Washington, where the Gardena project is located, the terrace is approximately 125 feet above the flood plain of the Walla Walla river. Opposite Milton in Oregon it is perhaps 40 feet above. Further eastward and northward the terrace comes down nearly to the level of the flood plains.

Initially that terrace covered the entire basin. It was a smooth, continuous plain. It comprises two fans in form; one with the center about the present canyon of the Walla Walla river at Milton; another with its head near the present village of Tracy on Mill creek.

Those two fans declining westward, merged together in the vicinity of the place where the Yellowhawk creek now joins the Walla Walla river in rather a flat, smooth plain, which continued across the rest of the basin. (Wash. Nar. T. p. 224.)

After the formation of the Gardena terrace, the streams have cut into it and have formed the trenches through which the various streams now flow. Toward the heads of the two fans in the vicinity of Milton and Freewater in Oregon and in the vicinity of Walla Walla in Washington, the streams have almost completely cut away the top of the old terrace.

In a later stage the streams began to deposit gravel in the valleys which they had previously cut. The first of these deposits in point of time formed low terraces extending along, but from 5 to 20 feet in elevation above, the flood plain of the respective streams. Finally, the main stream of the Walla Walla river deposited the coarser gravel forming the gravel fan centering at the mouth of the canyon near Milton in Oregon. Mill creek made a similar deposit forming the gravel fan centering about 3 miles below the mouth of the canyon near Tracy in Washington. These fans extend outward as fingers, much like the pattern of one's hand, one along each of the streams, separated by remnants of the high terrace which project in between. The gravel fan rests on and overrides the tips of these remnants of the high terrace. The flood plains which continue on down are built of similar material to the fans but becoming progessively finer.

These three sedimentary formations together form the valley floor of the Walla Walla river basin. (Wash. Nar. T. p. 225.)

*b. Present Topography*

The alluvial fan of the Walla Walla river slopes northward from an apex at the mouth of the rock-walled canyon at Milton, Oregon. It is about 4 miles long and the same distance in width along its outer margin. At its apex the fan stands about 1070 feet above sea level; from this altitude it descends about 60 feet in a mile and stands about 850 feet above sea level along its outer margin.

The alluvial fan of Mill creek is less prominent than the fan of the main stream at Milton. This fan originates at an apex about 2 miles east of Walla Walla in Washington, slopes to the westward and is roughly delimited by Yellowhawk creek on the south, by the main channel of Mill creek on the north and by several remnants of the Gardena terrace on the west. It attains a maximum width of 1½ miles at Walla Walla, which is situated almost entirely on it at an elevation above sea level of about 990 f[illegible] Wash. Ex. 16, p. 21.)

A considerable portion of the lands irrigated from the stream system in the related area in the two states is situated on the gravel fans.

**2. THE RIVER AND ITS TRIBUTARIES**

*a. Names and Location of Stream Courses*

An examination of the general map of the river basin (Wash. Ex. 17) shows the sources of the stream on the west flank of the Blue mountains in the northeastern part of the State of Oregon. The main stream begins in two branches designated the North Fork and the South Fork. These branches converge about 4 miles above the city of Milton in Oregon to form the

main stream, which continues downward in a northerly direction through the gap between the mountains just above that city and into that city, where (at the Red Bridge, SW¼ NE¼ Sec. 12, Tp. 5 N., R. 35 E. W. M.) it divides into two courses. The easterly course, locally known as the Tum-a-lum river in Oregon, continues in a definite channel into the State of Washington, where it is known as the Walla Walla river. It then swings rather abruptly to the west and continues in a broad arc westward a distance of about 30 miles to the Columbia river near the village of Wallula, Washington. The other course of the main stream in Oregon is locally known as the Little Walla Walla river. It continues northerly but diverges to the westward from the main course of the stream at that point. The Little Walla Walla river, after flowing about a mile, at a point in the NE¼ of Sec. 2, Tp. 5 N., R. 35 E. W. M. (called locally "The Frog"), divides into two branches which are locally known, beginning with the easterly branch, as the Crockett branch and the Ford branch. The Crockett branch divides into the East and West branches of the Crockett. The West branch of the Crockett divides into three prongs, the two easterly of which rejoin, about 1½ miles below, the East branch of the Crockett and discharge into the East prong of the Little Walla Walla Spring branch in Oregon, which in turn empties into the East Little Walla Walla river across the line in the State of Washington. The East Little Walla Walla river, then about 1½ miles below (NE¼ Sec. 10, Tp. 6 N., R. 35 E. W. M.), meets and enters the main stream in its westward swing in the State of Washington. (Stipulation No. 2.) The westerly prong of the West branch of the Crockett unites with the Ford branch

(at a point in Sec. 22, Tp. 6 N, R. 35 E. W. M.) to form the West prong of the Little Walla Walla, which crosses the line into the State of Washington, where it is known as the West Little Walla Walla river. The course of the West Little Walla Walla river in Washington is generally northwesterly somewhat along the general course of the main stream but finally converging with the main stream at a point in the SE¼ of Sec. 31, Tp. 6 N., R. 35 E. W. M. The length of this tributary and its contributing channels is app oximately 7 miles.

The Little Walla Walla river in Oregon and the distributaries thereof which finally drain into the East and West Little Walla Walla rivers in Washington are short cut by-passes, avoiding the circuitous bend of the river, from the main stream further up in the State of Oregon to the main stream lower down in the State of Washington.

Further to the west from the main stream in the State of Oregon in Sections 22 and 27, Tp. 6 N., R. 35 E. W. M., rise the east and middle branches of Mud creek which unite to form Mud creek in the State of Washington. This tributary flows westerly and northwesterly a distance of approximately 11 miles and enters the main stream in Washington in Sec. 36, Tp. 7 N., R. 33 E. W. M. Further to the west in Oregon is Pine creek with its tributaries Dry creek, Swartz Spring branch and South Mud creek. South Mud creek crosses the state line north of Sec. 15, Tp. 6 N., R. 34 E. W. M., and flows westerly in Washington about a quarter of a mile from the state line to Pine creek. It is known as Little Mud creek in the State of Washington. Johnson creek, Goodman Spring branch and Dugger creek are spring branches in

Oregon in the watershed of Pine creek but have no surface channel connection therewith. (Stipulation No. 2.) Pine creek is a tributary of about the same length as Mud creek and enters the main stream in Washington in Sec. 2, Tp. 6 N., R. 33 E. W. M

The principal tributary on the Washington side of the main stream is Mill creek, which lies mostly in that state. It rises in numerous thread branches among the Blue mountains near the state line in the State of Oregon some 15 or 20 miles northeasterly from the source branches of the main stream, and flows across the state line into Washington northwesterly, westerly and southwesterly through the City of Walla Walla, entering the main stream near the Whitman Mission, in Sec. 31, Tp. 7 N., R. 35 E. W. M. None of the waters of the watershed of this tributary reaches the main stream in the State of Oregon. About 3 miles above the east city limits of the City of Walla Walla, Mill creek divides into two channels. The northerly channel, known as Titus creek, parallels, then unites with, the main channel of the creek about 2½ miles below the division. About 1½ miles below the division of Titus and Mill creeks, Mill creek again divides. One branch, about 8 miles in length, known as Yellowhawk creek, juts away southwesterly and short cuts to the main stream, entering the same in the NE¼ of Sec. 11, Tp. 6 N., R. 35 E. W. M. (Wash. Ex. 17.) Yellowhawk creek, in turn, divides about a half mile from its origin. One branch forming Garrison creek diverges from, then runs nearly parallel with, Yellowhawk creek, and enters the Walla Walla river in the NE¼ of SE¼ of Sec. 4, Tp. 6 N., R. 34 E. W. M. Cottonwood creek, Lasater Spring branch and Russel creek with its trib-

utary Reser creek, are tributaries of Yellowhawk creek entering the same from an easterly direction.

There are other small tributaries of the main stream in Washington which are not in issue in this cause and will not be enumerated here.

*b. Gradient of Stream Courses*

The gradient of the Walla Walla river decreases progressively down stream. The fall is approximately 80 feet to the mile at the confluence of the North and South forks of the river about 5 miles above Milton in Oregon. The average slope down the fan north of Milton is 60 feet to the mile. Across the state line in Washington, the gradient becomes gradually less to about 40 feet to the mile in the vicinity of the mouth of Yellowhawk creek. Further down the river the gradient becomes less until it is less than 10 feet to the mile at the mouth of the river. (Wash. Ex. 16, Vol. 1, p. 23.) The Little Walla Walla river and its distributaries in Oregon have an average gradient of about 60 feet to the mile.

The gradient of Mill creek is about 100 feet to the mile at the mouth of the canyon near Tracy, in Washington, 65 feet to the mile at Walla Walla and 50 feet to the mile just above its junction with the Walla Walla river near Whitman. (Stipulation No. 3.)

**3. CLIMATE AND WATER SUPPLY**

*a. Precipitation*

The principal part of the drainage basin of the river includes an area about 50 miles in length, approximately 30 miles in width at the greatest width and gradually lessening in width downward to a few miles at the mouth of the river. (Wash. Ex. 17.) The main stream drains

about 150 square miles of forested mountainous country above Milton which is moderately rugged and moderately high in altitude. Mill creek drains a lesser area above its canyon but of about the same forest character, ruggedness and altitude. (Wash. Ex. 16, Vol. 1, p. 24.)

The Walla Walla river basin has a semi-arid climate, with warm dry summers and cold wet winters. The mean temperature in the warmest month, which is generally July, is 73.9 deg. F. at Milton, 76.5 deg. F. at Walla Walla, and 72.8 deg. F. at Lowden. In the coldest month, which generally is January, it is 31 deg. F. at Milton, 30.9 deg. F. at Walla Walla, and 29.1 deg. F. at Lowden. The mean annual temperature is 52.6 deg. F. at Milton, 53.9 deg. F. at Walla Walla, and 51.3 deg. F. at Lowden. During the past ten years, the highest recorded temperature was 107 deg. F. and the lowest was –15 deg. F. During the same period, the latest killing frost in the spring has ranged from March 9th to May 9th, and the earliest killing frost in the autumn from September 21st to November 12th. The average growing season, or frost-free period, is 193 days. The average annual rainfall at Milton, during the 11 year period 1922-1932, was 12.99 inches, of which 1.54 inches fell during the three summer months, July, August and September. The average annual rainfall at Walla Walla during that period was 14.37 inches, of which 1.64 inches fell during the three summer months. The average annual rainfall at Lowden, during the same period, was 9.52 inches, of which 1.25 inches fell during the three summer months.

Little rain falls on the drainage area in the summer and a large part of the precipitation in the winter is snow. On the average the spring precipitation in April,

May and June approximates 2.68 inches and the average fall precipitation in October, November and December approximates 4.78 inches. The average winter precipitation during the months of January, February and March aggregate approximately 3.90 inches while the summer precipitation during the months of July, August and September aggregate 1.54 inches. The winter precipitation is about 2½ times, and the spring precipitation about 1¾ times, the summer precipitation, while the spring and fall precipitation together aggregate over 4 4/5 times the summer precipitation.

The United States Weather bureau measurements for the period from October, 1921, to and including September, 1933, show the average precipitation in inches for the respective months during that period as follows:

| Apr. | May | June | July | Aug. | Sept. | Total |
|---|---|---|---|---|---|---|
| .58 | 1.00 | 1.10 | .16 | .48 | .90 | 4.22 |
| Oct. | Nov. | Dec. | Jan. | Feb. | March | |
| 1.16 | 1.90 | 1.72 | 1.63 | 1.12 | 1.15 | 8.68 |

(Wash. Ex. 14, Vol. 1, p. 12)

*b. Sources of Water Supply*

The Walla Walla river and its principal tributary, Mill creek, are perennial streams. Their supply of water comes from rains and melting snow through the surface and subterranean drainage of the watershed. Due to the rather steep gradient, the surface drainage is rapid and the lower stream supply is quite responsive to heavy rains or rapidly melting snow on the watershed above. (Wash. Ex. 16, Vol. 1, p. 24.)

In addition to the supply of water in sudden freshets there is a perpetual contribution from ground water storage and drainage which break out in springs along

the courses. The supply of these springs is generally not transitory or sporadic but steady and constant. It is this source that furnishes the dependable water supply of the stream system in the summer or low water period. (Wash. Nar. T. p. 74.)

*c. Water Measurements*

The stream gaging records of the United States Geological Survey and of the State of Oregon measuring the flow of the Walla Walla river near the confluence of the North and South forks in Oregon are set out in Washington's Exhibit 18, pp. 22-76. These measurements cover the period from the fall of 1903 to 1933 inclusive. The measurements from 1903 to 1917 were not taken at identical points on the stream. Gaging stations in some instances were washed out and the measurements were intermittent and often estimated. These measurements are of little value (Wash. Nar. T. pp. 90-91) and will be omitted here.

The record of the measurements for the year 1929 are of no value for the reason that in that year the Milton power plant was diverting water from the river in that section past the gage in amounts unknown. (Wash. Nar. T. pp. 90-91.)

From 1918 to 1928 measurements were made at a point about one-half mile below the confluence of the North and South forks, designated station 212. From 1930 to 1933 two measuring points were used. One on the South Fork about a mile above its mouth, designated station 215, and the other on the North Fork about a half mile above its mouth, designated station 216. While these measurements were not made at identical locations, they were made at points relatively close enough

to reflect the approximate water supply in this section of the stream. (Wash. Nar. T. pp. 91-92.)

The power plant of the Pacific Power and Light Company is situated on the South Fork a short distance above the confluence of the North and South forks. The water for the power plant is diverted from the South Fork near the head of irrigation and carried to the plant through a pipe line about 7 miles in length. Gaging station 212 is located below the power plant and therefore reflects the true water supply so far as use for power is concerned, since the use of the power plant is non-consumptive. Gaging state 215 on the South Fork is also located below the power plant (Wash. Ex. 17), but does not reflect the loss from 19 small diversions above during the irrigation season amounting by the Oregon decree to 10.4 c.f.s. (Wash. Ex. 1.) There is little, if any, regulation above the forks (Ore. Abs. p. 52) and there is generally an over-diversion (Wash. Ex. 30, Table IV). This loss occurring 4/5ths of the period covered by the measurements is estimated to be 6 c.f.s. Gaging station 214 is located on the South Fork above the head of irrigation and its record is used here where available. (Wash. Ex. 17.)

Above the point of measurement on the North Fork (station 216) there are 13 small diversions for irrigation. The aggregate amount of these rights for irrigation is 7.28 c.f.s. (Wash. Ex. 1.) The gage readings at station 216 fall short of reflecting the actual water supply of the North Fork to the extent of the amount of water consumed in these diversions. It is estimated that the aggregate amount of the loss by these diversions is 5 c.f.s. (Wash. Nar. T. p. 101.)

The measurements above mentioned in the years 1918 to 1928 inclusive, and 1930 to 1933 inclusive, it would appear, furnish the most reliable data as to the stream supply in that locality of the stream. This case is concerned more strictly with the summer stream supply.

During the earlier part of the summer, the flow is affected by the snow conditions in the mountains, by the temperature conditions as to the rapidity of melting, and by the rainfall occurring in any particular month in adidition to the melting snow. The supply of water in this section of the stream during the month of June is generally abundant. During the period from 1918 to 1933 inclusive, with the exception of the year 1929 when the records are incomplete, the records of measurements show an average minimum for June of 205.4 c.f.s. and an average mean of 231.2 c.f.s. The lowest single reading in this month during the period was in 1926 when the supply was 90 c.f.s. This continued for one day only and the mean for the month in that year was 103 c.f.s. The year 1926 was the year of lowest water supply of the period. (Wash. Ex. 18, pp. 22-76.)

It is thought that the stream gaging records of the stations above mentioned for the months of July, August and September furnish the truest delineation of the stream supply during the low water stages.

The usual summer supply in this section of the stream is shown in the following table gathered from the record of measurements. (Wash. Ex. 18, pp. 22-76.) The maximum, minimum and mean flow during the month, the percentage of time in each month the flow is below the mean, the daily average of the below-mean

flow, and its percentage of the mean, in the months of July, August and September during the years specified, are as follows:

*d. Table—Summary of Measurements Near North and South Forks of Walla Walla River*

| *Month* | *Maximum* | *Minimum* | *Mean* | *Percentage of time flow below mean* | *Daily average of the below-mean flow and its percentage of the mean* | |
|---|---|---|---|---|---|---|
| | *c. f. s.* | *c. f. s.* | *c. f. s.* | *%* | *c. f. s.* | *%* |
| 1918 | | | | | | |
| July ..... | | 105 | 129 | 45.16 | 93.62 | — 72.57 |
| August ..... | 130 | 105 | 121 | 38.70 | 113.66 | — 93.93 |
| September .. | 145 | 108 | 128 | 26.66 | 114.87 | — 89.74 |
| (Station 212, Wash. Ex. 18 p. 39) | | | | | | |
| 1919 | | | | | | |
| July ..... | 134 | 112 | 121 | 66.66 | 117.15 | — 96.81 |
| August ..... | 112 | 103 | 109 | 35.48 | 105.72 | — 96.99 |
| September .. | 151 | 112 | 127 | 53.33 | 119.25 | — 93.89 |
| (Station 212, Wash. Ex. 18 p. 38) | | | | | | |
| 1920 | | | | | | |
| July ..... | 124 | | 112 | 45.16 | 107.35 | — 95.84 |
| August ..... | 164 | 100 | 112 | 64.51 | 104.25 | — 93.08 |
| September .. | 164 | 91 | 118 | 53.33 | 103.06 | — 87.33 |
| (Station 212, Wash. Ex. 18 p. 38) | | | | | | |
| 1921 | | | | | | |
| July ..... | 157 | 115 | 123 | 74.19 | 117.34 | — 95.39 |
| August ..... | | | 110a | | | |
| September .. | 159 | 11? | 123 | 63.33 | 115.23 | — 93.70 |
| (Station 212, Wash. Ex. 18 p. 40) | | | | | | |
| a. Estimated. | | | | | | |
| 1922 | | | | | | |
| July ..... | 170 | 127 | 142 | 58.06 | 132.38 | — 93.22 |
| August ..... | 150 | 123 | 132 | 67.74 | 128.80 | — 97.57 |
| September .. | 138 | 125 | 129 | 36.66 | 126.45 | — 98.02 |
| (Station 212, Wash. Ex. 18 p. 40) | | | | | | |
| 1923 | | | | | | |
| July ..... | 157 | 102 | 124 | 61.29 | 112.42 | — 90.66 |
| August ..... | 102 | 89 | 95.7 | 32.22 | 91.60 | — 95.71 |
| September .. | 102 | 86 | 93.2 | 46.66 | 90.57 | — 97.17 |
| (Station 212, Wash. Ex. 18 p. 41) | | | | | | |
| 1924 | | | | | | |
| July ..... | 118 | 90 | 99.4 | 54.83 | 93.70 | — 94.26 |
| August ..... | 116 | 91 | 98.7 | 58.06 | 94.05 | — 95.28 |
| September .. | 113 | 95 | 105 | 36.66 | 99.36 | — 94.62 |
| (Station 212, Wash. Ex. 18 p. 42) | | | | | | |

| Month | Maximum | Minimum | Mean | Percentage of time flow below mean | Daily average of the below-mean flow and its percentage of the mean | |
|---|---|---|---|---|---|---|
| | c. f. s. | c. f. s. | c. f. s. | % | c. f. s. | % |
| 1925 | | | | | | |
| July ..... | 115 | 90 | 100 | 51.61 | 95.50 — | 95.50 |
| August ..... | 110 | 90 | 98.7 | 54.83 | 94.23 — | 95.47 |
| September .. | 112 | 98 | 105 | 40.00 | 100.33 — | 95.55 |
| (Station 212, Wash. Ex. 18 p. 43) | | | | | | |
| 1926 | | | | | | |
| July ..... | 93 | 72 | 80.6 | 35.48 | 75.33 — | 93.46 |
| August ..... | 128 | 74 | 83.4 | 48.38 | 77.33 — | 92.72 |
| September .. | 117 | 98 | 105 | 53.33 | 101.00 — | 96.19 |
| (Station 212, Wash. Ex. 18 p. 44) | | | | | | |
| 1927 | | | | | | |
| July ..... | 143 | 88 | 106 | 54.83 | 93.47 — | 88.17 |
| August ..... | 93 | 80 | 88.7 | 61.29 | 87.94 — | 99.14 |
| September .. | 435 | 97 | 150 | 63.33 | 112.63 — | 75.08 |
| (Station 212, Wash. Ex. 18, p. 45) | | | | | | |
| 1928 | | | | | | |
| July ..... | 143 | 90 | 110 | 51.61 | 96.75 — | 87.95 |
| August ..... | 99 | 90 | 92.9 | 51.61 | 90.75 — | 97.66 |
| September .. | 115 | 63 | 89.2 | 33.33 | 71.10 — | 79.70 |
| (Station 212, Wash. Ex. 18, p. 46) | | | | | | |
| 1930 | | | | | | |
| July ..... | 115 | 59 | 81.5 | 67.74 | 74.19 — | 91.03 |
| August ..... | 97 | 67 | 82.2 | 48.38 | 76.06 — | 92.53 |
| September .. | 93 | 67 | 81.9 | 58.06 | 77.50 — | 94.62 |
| (Stations 215 and 216, Wash. Ex. pp. 56 and 60) | | | | | | |
| 1931 | | | | | | |
| July ..... | 99 | 82 | 87.2 | 64.51 | 83.90 — | 96.19 |
| August ..... | 85 | 80 | 83.4 | 64.51 | 82.45 — | 98.86 |
| September .. | 86 | 80 | 83.8 | 46.66 | 81.71 — | 97.50 |
| (Stations 214 and 216, Wash. Ex. 18, pp. 53 and 61) | | | | | | |
| 1932 | | | | | | |
| July ..... | 182 | 109 | 133.4 | 54.83 | 120.94 — | 90.65 |
| August ..... | 114 | 97 | 101.9 | 58.06 | 92.55 — | 90.91 |
| September .. | 136 | 97 | 100.6 | 58.06 | 97.66 — | 97.07 |
| (Stations 214 and 216, Wash. Ex. 18, pp.54 and 62) | | | | | | |
| 1933 | | | | | | |
| July ..... | 205 | 118 | 139.6 | 64.51 | 125.10 — | 89.61 |
| August ..... | 123 | 108 | 113.5 | 54.83 | 110.23 — | 97.11 |
| September .. | 117 | 109 | 112.7 | 63.33 | 110.73 — | 98.25 |
| (Stations 214 and 216, Wash. Ex. 18, pp. 55 and 63) | | | | | | |

To the measurements in the tabulation should be added the water which was being diverted above the places of measurement above mentioned on the North Fork, and on the South Fork, during the year 1918 to 1928 and in 1930, and was lost in irrigation. Roughly, this may be estimated at 11 c.f.s. The average monthly mean for the period, therefore, would approximate (c.f.s.): July, 123.58; August, 112.50; September, 121.09. The average summer mean in this section of the stream would approximate 119.05 c.f.s.

### *e. Water Supply Below Forks of Main Stream In Oregon*

A number of diversions from the main stream below the confluence of the North and South forks are made during the irrigation season. The section of the stream from this point to the division at the beginning of the Little Walla Walla river in Oregon has also additional support from ground drainage and springs and is a gaining stream. (Wash. Nar. T. p. 117.) The supply of water in this section of the stream in the summer if no diversions were taking place would be somewhat greater than that at the confluence of the forks.

The river divides into several natural courses on the alluvial fan beginning at the mouth of the canyon at Milton. The principal part of this division now begins with the Little Walla Walla river. The main stream continues northward in the vicinity of the easterly fringe of the fan. The Little Walla Walla river veers to the left from the main stream and again divides into several channels running down over the fan. In times of abundant supply, the water flows through all these channels to connecting streams in the State of Washington. In times

of water scarcity, during the summer, with the exception of a small quantity just sufficient to supply diversions between the Red bridge and Nursery bridge, all the water in the stream at the head of the Little Walla Walla river in Oregon, remaining after the diversions above the Red bridge, is diverted into the Little Walla Walla river. The surface of the bed of the main stream (locally called the Tum-a-lum from this point to the state line) then becomes dry from just below the Milton Nursery bridge for a distance of 1½ to 2 miles to just above the McCoy bridge, where springs arise, and channel surface flow in the main stream resumes. (Wash. Ex. 16, pp. 22-23.) The supply of the Little Walla Walla river is divided at the "Frog" and distributed principally through the natural channels known as the Ford and Crockett branches, heretofore described.

*f. Springs In Oregon*

In addition to the springs near and in the channel of the streams, there are roughly three spring zones on and near the Milton-Freewater fan in Oregon. These zones are parallel and concentric about the apex of the fan. The inner zone is 3 to 3½ miles down stream from Freewater and comprises about ¾ of the springs in the Walla Walla basin. The intermediate and outer spring zones are situated about 2 miles and 4 miles respectively beyond the inner zone and contain only a few springs. (Wash. Ex. 16 p. 89.) The drainage from these springs forms spring branches which are used for irrigation and some of them contribute to the supply of streams flowing into the State of Washington. The average aggregate daily flow of these springs in the related area in August, 1933, was 27 c.f.s. (Wash. Ex. 30, Table V.)

*g. Total Summer Supply In Oregon*

The average summer flow, as stated above, for the months of July, August and September is about 119.05 c.f.s. This together with the average summer flow of the springs and spring branches above mentioned, namely 27 c.f.s., totals 146.05 c.f.s. Roughly, the average summer supply of the stream in Oregon available for beneficial use, expressed in terms of running water is, therefore, 146.05 c.f.s. This does not include the supply of the steams to the west of the Milton-Freewater fan such as Mud and Pine creeks. The relative rights of the two states in and to the waters of Mud and Pine Creeks have been settled by Stipulation No. 2.

*h. Mill Creek Supply*

The records of the measurements of the Mill Creek water supply are incomplete. There are records of the measurements of the United States Geological Survey for the years 1914 to 1917 inclusive. There are no records for the dry years of 1924, 1925, 1926, 1930 and 1931. Measurements were carried on during the summers of 1932 and 1933 by cooperation of Oregon and Washington.

The source of water in Mill creek during the low water season with the exception of an occasional rain, is entirely from springs and ground water seepage in the mountains near its origin and continuing along its course down the valley. (Wash. Nar. T. p. 74.) The city of Walla Walla has an early right to divert 28 c.f.s. of water from this stream for municipal purposes. (Stipulation No. 2.) The intake is in the State of Oregon and water is diverted to measuring works located approximately at the state line. From the measuring point, the water is

carried by a pipe line to a reservoir near Mill creek about three miles above the city, from which the water is distributed in the city. Any surplus of water above the requirements of the reservoir is returned by means of a spillway to Mill creek above the mouth of Yellowhawk creek. (Wash. Ex. 17.) The average amount of the city's diversion approximates 22.63 c.f.s. (Wash. Ex. 18, p. 168.)

The Walla Walla city pipe line was installed and first used shortly after December, 1920. (Wash. Ex. 10 p. 118.) Prior to that time the diversion point for the city was lower on Mill Creek about 12 miles above the city.

The usual summer supply of upper Mill creek, not including the water diverted by the city of Walla Walla, is shown in the following table gathered from the records of measurements above mentioned. (Wash. Ex. 18, pp. 166-167; Wash. Ex. 19.) The maximum, minimum and mean flow during the month in the months of July, August and September during the years specified are as follows:

| Month | Maximum | Minimum | Mean |
|---|---|---|---|
| 1914 | | | |
| July | 39 | 32 | 35.5 |
| August | 33 | 32 | 32.6 |
| September | 60 | 32 | 36.4 |
| 1915 | | | |
| July | 37 | 27 | 29.8 |
| August | 27 | 22 | 24.4 |
| September | 31 | 22 | 24.1 |
| 1916 | | | |
| July | 103 | 32 | 59.9 |
| August | 37 | 27 | 30.7 |
| September | 42 | 26 | 29.1 |
| 1917 | | | |
| July | 106 | 36 | 61.0 |
| August | 34 | 28 | 31.3 |
| September | 51 | 28 | 30.8 |
| (Wash. Ex. 19) | | | |
| 1932 | | | |
| July | ... | ... | ... |
| August | 34 | 28 | 30.9 |
| September | 52 | 29 | 34.2 |
| 1933 | | | |
| July | ... | ... | ... |
| August | 44 | 33 | 35.4 |
| September | ... | ... | ... |
| (Wash. Ex. 18) | | | |

*i. Springs in Washington*

Around the fringe of the Mill creek fan in Washington there are numerous springs and spring branches contributing water to the stream system. The flow of these was measured in August, 1932, and in October, 1933. The average aggregate flow of these springs and spring branches, according to these measurements, is 15.78 c.f.s.. (Wash. Ex. 18, pp. 217-220; Wash. Ex. 30, Table IIa.)

*j. State Line Tributaries*

There is also a source of water for use in the State of Washington in the tributaries which cross the state line and flow into the main stream in Washington.

These tributaries are East Little Walla Walla and West Little Walla Walla and related spring branches. Measurements taken at the state line on these tributaries and branches during July and August, 1933, show an average aggregate flow during that time of 13 c.f.s. (Wash. Ex. 30, Table V.)

*k. Main Stream Supply in Washington*

Measurements taken in cooperation by the two states on the main stream at the state line in July, August and September of the year 1932 show a mean flow at that point for these months as follows (c.f.s.): July, 7.88; August, 5.32; September, 4.53. Measurements at the same point during the same months in the year 1933 show a mean flow as follows (c.f.s.): July, 9.35; August, 5.37; September, 5.57. The average monthly mean for the two years is as follows (c.f.s.): July, 8.61; August, 5.34; September, 5.05. The average flow at this point for the three month period, including both years, is 6.33 c.f.s. (Wash. Ex. 18, pp. 77-78.)

In addition there is a seepage gain in the supply of the main stream from this point to a point below the principal diversions from the stream in Washington. Measurements taken in the summer of the years 1932 and 1933 indicate an average gain in this section of the river during the months of July, August and September of 8.5 c.f.s. (Wash. Nar. T. pp. 116-117.)

*l. Total Summer Supply in Washington*

The records above mentioned do not include the dry years. It is impossible to make an accurate comparison of the water supply of the river system in Washington with that of the river system in Oregon. If the diminution of the stream supply in the dry years in Washing-

ton was relatively in the same proportion as during the same period in Oregon, which is probable (Wash. Nar. T. p. 237), the average of the measurements in the Washington area would be reduced from 15% to 20%. The average summer flow of Mill creek, including the diversion of the city of Walla Walla, shown in the incomplete records mentioned above, approximates 57.44 c.f.s. The average summer supply of the springs and spring branches aggregate 15.78 c.f.s. The average summer supply in the tributaries crossing the state line into Washington aggregate 13 c.f.s., and the average summer supply of the main stream aggregates 14.83 c.f.s. The aggregate total of all these is 101 c.f.s. A reduction of this total by 15% for purposes of comparison of this average summer supply with that in Oregon for the period there covered gives the estimated average summer supply in the stream system in Washington as 86 c.f.s.

#### 4. SOIL

##### *a. Soil Map*

F. O. Youngs, assistant soil surveyor with the Bureau of Chemistry and Soils in the United States Department of Agriculture (Wash. Nar. T. p. 254), made a study of the soils of the Walla Walla river basin and classified most of the areas involved with respect to their susceptibility to irrigation. (Ore. Abs. pp. 93-94.) The location of these soils with their respective classifications are set forth on a simplified map with explanatory "key" which were introduced in evidence as Washington's Exhibit 15. The two states concerned have agreed by stipulation No. 4 that this map contains a correct representation of the classifications and of the

areas of the several classes of soil and that the symbols indicated thereon have the meaning shown by the key attached to the map.

The map segregates the types of soil with respect to their susceptibility to irrigation into 10 classifications and differentiates and locates them by respective colors. The color and classification key attached to the map (Wash. Ex. 15) describes the type of soil of each classification and specifies the color representing each respective classification. The contents of the key are as follows:

**Key to the Simplified Soil Map of the Walla Walla Valley, Oregon-Washington**

| Group No. | Color | Group No. | Color |
|---|---|---|---|
| 1 | Deep green | 2B | Yellow |
| 1D | Purple | 3 | Orange |
| 1R | Pale green | 4 | Light purple |
| 1RA | Medium green | 5 | Brown |
| 2A | Pale yellow | 6 | Pink |

Group

1 —Deep, mellow alluvial soils occupying bottom lands or low terraces. Surface smooth to gently undulating. Contain little or no accumulation of alkali salts. Water holding capacity good. Drainage normally good though some areas are subirrigated to some extent and some are overflowed occassionally.

1D —Deep alluvial soils similar to Group 1, but not so well drained and commonly darker in color. Ground water level (water table) is in most places within 6 feet of the surface, affording subirrigation. Wetter spots need drainage for successful crop production. Salts are accumulated at the surface in places, but seldom in sufficient quantity to be harmful to vegetation.

1R —Deep, fairly friable soils occupying upland benches or ridges. Topography varies from smooth to rolling. Soils have good water holding capacity. Drainage is good except in a few small areas. Unevenness or steepness of surface causes difficulty in irrigation in places.

1RA—Soils identical to those of Group 1R but of very smooth surface. Mapped only in Gardena district.

2A —Rather shallow alluvial soils overlying gravel beds. Depth of fairly clean soil over gravel varies from 1½ to 4 feet. Require rather frequent irrigation in most places.

2B —Shallow, somewhat gravelly or stony alluvial soils over gravel beds. Depth of soil over gravel varies from 6 inches to 2 feet or rarely more. Frequent irrigation is necessary.

3 —Shallow, very gravelly or stony soils over beds of gravel and boulders. Water holding capacity is low and very frequent irrigation is necessary.

4 —Soils, occupying bottom lands or low terraces, rather strongly impregnated with alkali salts and having a high water table, usually within 6 feet of the surface. Usually supports a growth of salt grass, greasewood or alkali-weed. For successful crop production these soils must be reclaimed by washing or leaching with irrigation water, and provision for drainage is essential in many places. Lime hardpan is present in many places in the subsoils.

5 —Soils similar to those of Group 4, but lying on benches or slopes above the level of the bottom lands. The ground water level is not high at the present time. Alkali salt concentration is usually strong. These soils must be reclaimed by washing in order to successfully grow crops.

6 —Non-agricultural lands, including rough, broken and stony land and riverwash.

### *b. Composite Soil Groups*

The ten classifications of soil as to their susceptibility to irrigation may for practical purposes be thrown into three general composite groups. The first includes No. 6 soil shown in pink on the map (Wash. Ex. 15), is non-agricultural riverwash and may be eliminated from further consideration here. The next two composite groups were referred to in the testimony of Washington witnesses as Groups A and B. (Wash. Nar. T. pp. 161 and 174.)

Composite Group A is composed of the better and higher water duty soils and includes 1, 1D, 1R, 1RA, 2A, 4 and 5, shown in deep green, purple, pale green, medium green, pale yellow, light purple and brown, respectively, on the soil map. (Wash. Ex. 15.)

The 1 (deep green), 1D (purple), 1R (pale green) and 1RA (medium green) soils are generally deep, good texture and of good water-holding capacity. The surface of No. 1 soil is not very steep and is smooth to unrelated. The 1D soil is salt but the salt concentration not sufficient generally to harm plant growth. It is situated along the river and the water table is usually within 6 feet. The 1R and 1RA soils are well drained bench lands but the 1RA soils have the smoother surface and lie better naturally for irrigation.

The 2A (pale yellow) soil is alluvial, fairly clean, more shallow than the No. 1 soils, and overlies gravel beds. The 2A soil varies in depth from 1½ to 4 feet. (Wash. Nar. T. pp. 156-157.)

The No. 4 (light purple) soil is similar to 1D soil as to water table but it differs in that the salt concentration is strong enough to injure plant life. This soil is used largely for pasture and requires special treatment to overcome the injurious effects of the alkali.

The No. 5 (brown) soil is similar to No. 4 soil in salt concentration but is located on higher ground and does not at the present time have a water table. (Wash. Nar. T. p. 158.)

Composite Group B is composed of the gravelly and low water duty soils and includes 2B and 3, shown in yellow and orange, respectively, on the soil map. (Wash. Ex. 15.)

2B is alluvial soil overlying gravel beds similar to 2A but differs from 2A in that it contains more gravel and is shallower. It varies in depth from 6 inches to 2 feet.

No. 3 is the shallow, coarse, gravelly and stony soil over beds of boulders and gravel. It contains from 49% to 79% gravel, cobbles and stone. The useful soil depth is largely within the first 2 feet but there is some value in the third foot. (Ore. Abs. pp. 97-98.) To a depth of about 16 inches the soil between the stone and gravel is of a fairly heavy character, as heavy as silt loam. (Wash. Nar. T. p. 184.)

*c. Soil Group Location in Oregon*

The soil of the irrigated lands in the river basin in Oregon is generally a gravelly loam mixed with silt in varying degrees. The North and South forks and the main stream below their confluence extending down to the mouth of the canyon just above Milton in Oregon run through rock-walled canyons which include valleys ranging from a quarter to a half mile wide. The soil along the two forks and the main stream in this section of the stream system runs from cobble stone and gravel to fairly fine alluvial material overlying gravel. The depth of these soils varies from a few inches to several feet. (Wash. Ex. 15; Wash. Nar. T. pp. 16-17.) These soils are classified on Youngs' soil map (Wash. Ex. 15) largely as Classes 3 and 2B, with 2B type soil predominating.

The irrigated lands below the canyon at Milton tributary to the main stream and its distributaries in Oregon roughly lie in range 35 E. W. M. The soil of these lands includes all the classes represented on the soil map (Wash. Ex. 15) except types 1RA (medium green) and 5 (brown). The alluvial fan lying in township 6, sections 25, 26, 27 and 33, 34, 35 and 36, and in township 5, sections 1, 2 and 3 is composed largely of

the No. 3 (orange) soil type. Below the fan, all the soil types, with the two exceptions above noted, are found. Type No. 1 (deep green), 1D (purple), 1R (pale green) and 4 (light purple) predominate with type 1R including the greatest acreage of any one type in this area.

*d. Estimated Acreage of Soil Groups in Oregon*

An estimate of the acreage of irrigated lands in Oregon comprised in these several classes of soil types is tabulated in Washington Exhibit 21. The more compact irrigated areas, comprising practically all the low water duty lands of the related area in Oregon may be summarized to show the typical relationship of these soil classes, in the following manner:

The irrigated acreage in soil classes (1) along the forks and main stream to the canyon at Milton is as follows: (a) North and South forks: 1—39.15; 1D—5.75; 2A—63.88; 2B—101.65; 3—171.33. (b) Couse creek, not including Sections 18 and 19, Twp. 5 North, Range 36 E. W. M.: 1—3.30; 1R—13; 2A—11.90; 2B—10; 3—3.90. (c) Main stream from Section 21, Twp. 5 North, Range 36 E. W. M., down to and including Section 12, Twp. 5 North, Range 35 E. W. M.: 1—36.64; 1D—47.53; 1R—12; 2A—47.04; 2B—314.75; 3—166.49.

The irrigated acreage in soil classes (2) on the Milton-Freewater fan including Sections 1, 2 and 3, Twp. 5 North, Range 35 E. W. M., and Sections 25, 26, 27, 33, 34, 35, and 36, Twp. 6 North, Range 35 E. W. M., is as follows: 1—357.94; 1D—96.70; 1R—151.83; 2A—19; 2B—417.39; 3—2220.41; 4—140.50.

The irrigated acreage in soil classes (3) below the Milton-Freewater fan in Sections 13, 14, 15, 22, 23, 24

and 32, Twp. 6 North, Range 35 E. W. M., is as follows: 1—224.61; ID—440.67; 1R—508.20; 2A—30; 2B—157.20; 3—243.25; 4—355.80.

*e. Estimated Percentage of Acreage of Low Water Duty Soils in Oregon in the Areas Included in Above Tabulation*

Segregating and combining the total acreages in each of the soil classes included in the three general areas above enumerated into the two composite groups with regard to their respective water requirements, the average percentage of low water duty lands in each area is approximately as follows: (1) Along the two forks and main stream to the canyon at Milton, the soil is 75% low water duty. (2) On the Milton-Freewater fan, the soil is 78% low water duty. (3) The lands below the Milton-Freewater fan are composed of soil which is 20% low water duty.

*f. Soil Group Location in Washington*

The soil of the irrigated lands in the river basin in Washington comprises all the classes of the soil in Oregon with somewhat the same relative locations along Mill creek as that along the main stream in Oregon. On the whole, there is a greater proportion of the No. 1 soil classes in Washington. There is a considerable quantity of No. 4 (salt) land in the vicinity of Lowden which adds to the proportion of that class in the state of Washington. The 7,000 acres of land in the Gardena project are practically all deep soil class 1RA or 1R. A belt of No. 1 soil (about 4 sections of land) crosses the Mill creek fan dividing the No. 3 and 2B soil area thereof into an upper and a lower area. The upper area roughly comprises

about 4 sections and the lower about 3 sections. Three-fourths approximately of the No. 1 soil belt and nearly all of the lower No. 3 and 2B soil area lie within the limits of the city of Walla Walla. (Wash. Ex. 15.)

*g. Estimated Acreage of Soil Groups in Washington*

An estimate of the acreage of irrigated lands in Washington comprised in the several classes of soil types shown on the soil map (Wash. Ex. 15) is tabulated in Washington Exhibit 20. The more compact areas, comprising all the low water duty lands of the related area in Washington may be summarized to show the typical relationship of these soil classes, in the following manner:

The irrigated acreage in soil classes (1) along upper Mill creek down to the beginning of the Mill creek fan down to Section 13-7-36, including Sections 1 and 2, Twp. 6 North, and Sections 15, 16, 17 and 18, Twp. 7 North, all in Range 37, is as follows: 1—57.50; 2A—102.10; 2B—49.80; 3—64.40.

The irrigated acreage in soil classes (2) on the Mill creek fan including, in Township 7 North, Range 36 E. W. M., Sections 13, 14, 15, 16, 19, 20, 21, 22, 23, 27, 28, 29, 30, 31, 32, and Section 5, Twp. 6 North, Range 36 E. W. M., is as follows: 1—327.88; 1D—15.38; 1R—39.70; 2A—134.17; 2B—221.36; 3—872.41; 4—37.81.

The irrigated acreage in soil classes (3) of lands in the related area below the Mill creek fan, including in Township 7 North, Range 35 E. W. M., Sections 22, 23, 24, 25, 26, 27, 28, 29, 31, 32, 33, 34, 35 and 36; in Township 6 North, Range 36 E. W. M., Sections 5 and 6, and in

Township 6 North, Range 36 E. W. M., Sections 1, 2, 3, 4, 5, 9, 10, 11, 12, 13, 14, 15 and 16, is as follows: 1—2789.68; 1D—704.60; 1R—194.50; 2A—369.14; 2B—69.47; 3—173.68; 4—1263.85; 5—15.00.

With the exception of the lands in the Gardena project heretofore mentioned, the lands below the area above included are largely outside the related area, and are not included in the summary of typical soil classes. There are also lands lying to the south and east of the Mill creek fan which represent largely Class 1 and Class 1R soils. These do not change the typical soil class relationship and are not included in the soil class summary.

*h. Estimated Percentage of Acreage of Low Water Duty Soils in Washington in the Areas Included in the Above Tabulation*

Segregating and combining the total acreages in each of the soil classes included in the three general areas above enumerated into the two composite soil groups with regard to their respective water requirements, the average percentage of low water duty lands in each area is approximately as follows: (1) Along upper Mill creek down to the Mill creek fan, the soil is approximately 42% low water duty. (2) On the Mill creek fan, the soil is approximately 66% low water duty. (3) The lands in the designated area below the Mill creek fan are composed of soil which is approximately 5% low water duty.

**5. ORIGIN AND DEVELOPMENT OF WALLA WALLA RIVER WATER RIGHTS IN TWO STATES**

*a. Political Development*

The political development of the two states is set forth briefly in paragraph I of Stipulation No. 11 herein as follows:

Originally Washington was a part of what was popularly called the Oregon country. At this time the United States, Great Britain, Spain and Russia made claim to all or parts of this region. By treaty between the United States and Spain, February 22, 1819, Spain ceded to the United States all her rights in this region, north of the forty-second parallel. (8 U. S. Stat. L. 252) By treaty with the United States, April 5, 1824, Russia relinquished her claims to this territory. (8 U. S. Stat. L. 302) By treaty of October 20, 1818, the United States and Great Britain agreed that for a period of ten years the territory on the northwest coast of America westward of the Stony Mountains (Rocky Mountains) should be free and open to the vessels, citizens and subjects of both powers. (8 U. S. Stat. L. 248) This treaty was indefinitely continued in force by another treaty between the same parties on August 6, 1827, which provided that either party, at any time after October 20, 1828, might annul it by giving twelve months' notice to the other party. (8 U. S. Stat. L. 360) By joint resolution of the senate and house of representatives, under date of April 27, 1846, the President of the United States was authorized to give Great Britain the notice that was required for the abrogation of the treaty of August 6, 1827. (9 U. S. Stat. L. 109) The joint occupation of the territory between the Rocky Mountains and the Pacific coast was finally terminated and the boundary line between the possessions of Great Britain and the United States was fixed as the forty-ninth parallel of north latitude, Great Britain retaining the island of Vancouver, by treaty June 15, 1846. (9 U. S. Stat. L. 869)

On May 2, 1843, the inhabitants of the Oregon Country which was a somewhat indefinite term for the area drained by the Columbia River and lying west of the summit of the Rocky Mountains, met at Champoeg and organized a provisional government under the suzerainty of the United States. On July 5, 1845, representatives of the people again met and adopted what is known as the Organic Law of Oregon (Rev. Stat. Territory of Oregon, p. 33) This act was submitted to the people and ratified by popular vote of July 26, 1845.

All the territory of the United States lying west of the summit of the Rocky Mountains, north of the forty-second degree of north latitude was organized into the territory of Oregon, August 14, 1848. (9 U. S. Stat. L. 323) The territory of Washington was created out of part of the territory of Oregon by act of Congress, March 2, 1853. The territory of Washington included the present State of Washington and that portion of Idaho and Montana which is north of the forty-sixth parallel and west of the Rocky Mountains. (10 U. S. Stat. L. 172) The constitution of Oregon was adopted by convention on September 18,1857. This constitution so adopted became effective upon the admission of the State of Oregon to the Union by Act of Congress passed February 14, 1859 (11 Stat. L. 383) and by the acceptance by the State of the propositions submitted by Congress, which propositions were approved by the Legislative Assembly

of Oregon on June 3, 1859. (Ore. Code 1930, pp. 31-37, 63 et seq.) The present boundaries of the State of Oregon were then fixed and all the remainder of the then territory of Oregon was made a part of the territory of Washington. (11 U. S. Stat. L. 383, 384.)

Under date of March 3, 1863, the territory of Idaho, with boundaries the same as the present State of Idaho, was organized. (12 U. S. Stat. L. 808) On February 22, 1889 the Enabling Act, authorizing the Dakotas, Montana and Washington to form constitutions, was approved. The boundaries then fixed for the State of Washington were substantially the same as now existing. (Rem. Rev. Stat. of Wash., Vol. 1, p. 331) The constitution of the State of Washington was adopted by an election held in the state on October 1, 1889 and on November 11, 1889, the President of the United States proclaimed the admission of the state into the Union. (Rem. Rev. Stat. of Wash., Vol. 1, p. 347.)

*b. The Basis of Water Rights in the Two States*

Individual vested rights in the waters of the stream system exist in each state. The origin and protection of these rights are based generally on the doctrine of appropriation, which doctrine is recognized by the laws, customs and court decisions of the two states. When the supply of water in the stream is insufficient to satisfy all the individual vested rights therein, in accordance with their respective priorities, junior rights must stand aside for the benefit of senior rights in conflict therewith in either state.

At the same time each of these territories and later these states have recognized the doctrine of riparian ownership as a basis of rights in water for lands in private ownership. The difficulties inherent in attempting to reconcile the conflict of these two bases of rights in water led to legislation which, while saving existing rights, practically abolished the doctrine of riparian rights as a basis for acquiring new rights in water. In Oregon this legislation was enacted in 1909 (Ore. Code 1930, Title 49, Sec. 47, et seq.); in Washington, in 1917. (Rem. Rev.

Stat. of Wash. Ann., Title 48 Chap. 1, Sec. 7351 et seq.) This legislation in each state placed the ini iation of new rights and the consummation and use of existing rights under state regulation and provided for proceedings on the part of the state to determine existing rights relatively and to make a record of them for regulatory purposes.

Under authority of this legislation proceedings were instituted by the State of Oregon to determine the relative rights on a number of tributaries of the Walla Walla river in Oregon and finally the rights on the main stream in Oregon were determined, all by decrees of the court of that state. (Wash. Exs. 1 to 9 inclusive.) Similar proceedings were instituted in the state of Washington and resulted in decrees of the court of this state determining the relative rights on the tributaries and main stream of the Walla Walla river in Washington. (Wash. Exs. 11 to 13 inclusive.)

In addition to the adjudicated rights on the stream system in each state, the legislation mentioned authorizes the issuance, on the part of the state, of permits and certificates respectively for the initiation and consummation of rights in water, the same to be placed of public record.

Abstracts of these permits and certificates have been introduced in evidence in this case as Washington Exhibits 10 and 14.

The basis of rights adopted in these adjudication proceedings in the two states for practical purposes was that of appropriation. The basis of rights evidenced by state permits and certificates is that of appropriation.

It has been agreed herein by the two states concerned that for the purposes of this suit, the doctrine of appropriation shall apply to the rights of the individual landowners and water users in both states, by Paragraphs II and III of Stipulation No. 11, which are as follows:

II.

All the lands in the drainage area of the Walla Walla River in both states were originally public lands of the United States and that part of these lands now held in private ownership has been generally acquired under the public land laws of the United States; the lands along the upper reaches of the river were, at the time of the respective segregations from the public domain of the lands lower down on the stream system, and have been since, public lands of the United States and are now a part of the Umatilla National Forest Reserve.

III.

It is agreed that, for the purposes of this case, the individual rights of the respective landowners and water users concerned in both states are governed by the doctrine of appropriation and that no issue of riparian ownership as to such individual rights shall be raised in this case by either state.

### *c. Extent of Rights*

#### 1.) Acreage

Rights for the beneficial use of water on lands in either state are appurtenant to the lands on which the use is made and the place of use of such right may not be changed to other land without a permit from the proper state official. (Rem. Rev. Stat. of Wash., Vol. 8, Sec. 7391; Ore. Code 1930 Title 47, Sec. 47-712.) The acreage of lands in the related area in the two states, for which water rights are recognized in the two states with the years of priority is tabulated in stipulation No. 3 herein. These individual rights have been agreed upon by stipulation No. 1 herein, with the exception of the rights for 7,000 acres in the Gardena project in the State of Washington with a priority date of 1892. The priority

of this right is challenged by the State of Oregon. The total acreage shown in the tabulation is as follows: In Oregon, 10,775.25; in Washington, including the Gardena project, 19,836.55.

**2.) Authorized Water Duty in Oregon**

Decreed water rights in Oregon are generally expressed in miner's inches. A miner's inch under the Oregon law is equivalent to 1/40 of a cubic foot per second. All water measurements under Oregon decrees and permits are made at the point of diversion from the natural stream. (Stipulation No. 7.)

The general decree of the Circuit Court of Oregon, entered under date of February 20, 1933 (Wash. Ex. 1), determined the relative individual rights to the waters of the stream system in most of the related area in that state. In general, this decree awards 1½ miner's inches (.0375 c.f.s.) per acre , provided that where an irrigated tract is less than one acre and more than one-half acre, it shall receive 1½ miner's inches (.0375 c.f.s.) and where less than one-half acre it shall receive 1 miner's inch (.025 c.f.s.). There is also a provision in the decree (Wash. Ex. 1, p. 92) that "no rights of appropriation are hereby confirmed to divert a greater quantity of water than such appropriator can beneficially use for the purpose to which the water is to be put." The awards under this decree (Wash. Ex. 1) are for continuous use without seasonal limitation.

The decree of the Circuit Court of Oregon, entered under date of September 11, 1916 (Wash. Ex. 9), determined the relative rights to the waters of the West Prong of the Little Walla Walla river in Oregon for

each tract of land individually in amounts ranging from ½ miner's inch (.0125 c.f.s.) per acre to 1¼ miner's inch (.03125 c.f.s.) per acre, averaging approximately 1 miner's inch (.025 c.f.s.) per acre for all the lands involved, comprising between 800 and 1,000 acres.

The permits for the appropriation of water issued by the state engineer of Oregon fix the rights to the use of surface water in the part of the related area covered by said permits at a flow of ½ miner's inch (.0125 c.f.s.) per acre except as to the Pleasant View Irrigation Company rights, an additional amount of 20% was allowed by the court in the general decree (Wash. Ex. 1) for transportation losses. (Stipulation No. 7.)

**3.) Authorized Water Duty in Washington**

The general decree (Wash. Ex. 11) of the Superior Court of the State of Washington entered the 12th day of September, 1928, adjudicating the individual water rights in the stream system in the related area in Washington, provides that during the period in each year from July 1 to October 1, water shall be apportioned at the rate of 1 c.f.s. for each 100 acres of land involved in the individual claim; that during the period from October 1 to April 1 next, water shall be apportioned at the rate of 1 c.f.s. for each 50 acres of land involved in the individual claim; that during the period from April 1 to July 1 in each year, water shall be apportioned at the rate of 1 c.f.s for each 75 acres of land involved in the individual claim; provided that in all cases where water is used during any part of the period from July 1 to October 1, the amount of water diverted by each claimant for the year beginning October 1 shall not exceed 5 acre feet per acre. (Wash. Ex. 11, p. 146.)

The decrees (Wash. Exs. 12 and 13) of the Superior Court of the State of Washington, adjudicating the individual rights on Doan creek and on Stone creek, entered the 1st day of December, 1923, and the 10th day of July, 1923, respectively, involving between 900 and 1,000 acres along these two streams, establishes the duty of water for these lands at the rate of 1 c.f.s for each 75 acres.

Few permits for use of water on the related area in Washington have been issued by the state supervisor of hydraulics. Those issued involve about 300 acres and fix the duty of water at varying rates averaging approximately 1 c.f.s. for each 50 acres of land.

**6. Community Development**

The related area in Oregon has a population of about 5,000 people and this land has an assessed valuation of approximately 2¾ millions of dollars. The cities of Milton and Freewater have a population of about 2,300. The average farm unit in this area is about 10 acres. (Stipulation No. 3.)

The related area in Washington has a population of about 23,000 people and the land in this area has an assessed valuation of approximately 12½ millions of dollars. The city of Walla Walla has a population of about 16,000. The average farm unit in the related area in Washington is about 40 acres. (Stipulation No. 3.)

More or less the same types of crops are grown on the related areas in the two states. These consist principally of alfalfa, grains, vegetables and vine, berry and tree fruits. (Stipulation No. 3.)

While these communities on both sides of the state line are supported also by the surrounding territory,

the returns from the lands irrigated from the water of the Walla Walla river system have made large contribution to this development.

The first use of the water of the stream system, according to the priorities fixed in the decrees in evidence herein, began in Washington in 1859. Within three years thereafter, the use of the waters of the stream began in Oregon. The earlier development was along the main stream in Oregon and largely along Mill Creek in Washington. As new lands were taken up and development progressed in both states, more and more of the waters of the stream system were utilized until the need for water became greater than the supply, and that condition now exists. (Stipulation No. 3.)

### 7. PROCEEDINGS HAD AND ISSUES INVOLVED IN SUIT

In this action the State of Washington with leave of Court filed its bill of complaint in the Supreme Court of the United States seeking to have the Court determine the relative rights of the State of Washington and of the State of Oregon to the use of the waters of the Walla Walla river and its tributaries. The river is a non-navigable stream flowing within both states. The complaint further alleges in substance that the rights of the State of Washington in said stream have been and are being injured by the State of Oregon and asks that the defendant be enjoined and restrained from diverting or permitting to be diverted and used in the State of Oregon any of the waters of said stream or streams to which the defendant and its citizens are found not to be entitled and that it be required to permit and cause to be permitted to flow into the State of Washington the waters of the

said Walla Walla river and its tributaries to which it and its citizens are found to be entitled and for general relief. (Bill of Comp. pp. 13-14.)

The pleadings and stipulations defining the issues in the suit are set forth fully in the Special Master's report and recommendations for a decree (Sp. M. R. pp. 3-46) and will not be repeated here.

*a. Particular Statement of Washington's Contentions*

A particular statement of Washington's contentions based on the pleadings and stipulations is as follows:

1. That in regulating the adjudicated individual rights of its water users, the State of Oregon, its officers and agents have established the maximum per acre allotment set out in the decrees as the standard of apportionment for all lands in the related area in Oregon regardless of their respective actual water requirements and have not in the past apportioned and are not now apportioning water on the basis of economical beneficial use.

2. That in regulating the relative rights of the individual water users, the State of Oregon, its officers and agents have permitted and are permitting diversions of water from the Walla Walla river and its tributaries, including the spring branches and including also the Little Walla Walla river and its divisions and subdivisions, in excess of the actual water requirements of the lands in the related area in Oregon for which the diversions have been and are being made.

3. That in regulating the relative rights of the individual water users, the State of Oregon, its officers and agents, have disregarded the rights of the State of Wash-

ington and of the diverters from the river and its tributaries in the State of Washington by allowing diversions of water from the Walla Walla river and its tributaries, including the spring branches and including also the Little Walla Walla river and its divisions and distributaries, to satisfy rights in the State of Oregon junior in priority to that of the diverters affected thereby in the State of Washington.

4. That in regulating the relative rights of the individual water users, the State of Oregon, its officers and agents, have deprived and are depriving the State of Washington and its citizens of their proper and equitable share of the waters of the Walla Walla river and its tributaries by permitting at times during the summer season the diversion of the entire channel surface supply of the river at the division point of the Little Walla Walla river over and above that required for rights prior to those in the State of Washington through said Little Walla Walla river to satisfy rights in Oregon junior to those in Washington affected thereby, which junior rights in some instances are so used by reason of their place of use that the return water therefrom does not reach the main stream above the principal diversions from the river in the State of Washington.

5. That in regulating the relative rights of the individual water users, the State of Oregon, its officers and agents, have deprived and are depriving the State of Washington and its citizens of their proper and equitable share of the waters of the Walla Walla river and its tributaries by issuing permits and certificates of water right to use so-called waste water resulting from overdiversions for existing rights, by allowing and sanction-

ing the use of said so-called waste water without permits, and by permitting diversions of water from the Walla Walla river and its tributaries and from the Little Walla Walla river and its divisions and distributaries for the use of waste water, in disregard of the rights of the State of Washington, its citizens and water users in and to the waters of said stream system.

6. That the State of Oregon, its officers and agents, have required, authorized, permitted and sanctioned and are requiring, authorizing, permitting and sanctioning an unreasonable draught from the natural hydraulic head of the Walla Walla river system by failing to regulate the diversions of water from the main stream and the forks, above the Jewel West bridge located about 4 miles above the City of Milton and by failing to control and regulate the use of water from wells in the related area in Oregon, by authorizing, permitting and sanctioning wasteful and excessive diversions from the stream and by authorizing, permitting, and sanctioning excessive transportation losses in former and high water natural channels used to convey private water, to be charged against the natural supply of the stream system.

*b. Specific Issues*

The specific issues tendered by the parties are substantially as follows:

Stipulation No. 1 provides that the decrees and permits awarding rights in the related area in each state, with the exceptions therein specified, shall be accepted as evidencing the individual rights involved, as follows:

I.

That the rights specified in the abstract of water permits by the State Engineer of the State of Oregon, and in the decrees of the Circuit Court of said state for Umatilla county, in the following named cases, to-wit:

(1) Decree on the mandate In the Matter of the Determination of the Relative Rights to the Use of the Waters of Walla Walla River, etc., made and entered under date of February 25, 1933.

(2) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of Pine Creek, etc., made and entered under date of March 17, 1924.

(3) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of Middle Branch of Mud Creek, etc., made and entered under date of September 11, 1916.

(4) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of East Branch of Mud Creek, etc., made and entered under date of November 28, 1910.

(5) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of Dugger Creek, etc., made and entered under date of March 5, 1917.

(6) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of Goodman's Springs' Branch, etc., made and entered under date of June 29, 1911.

(7) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of Johnson Creek, etc., made and entered under date of September 11, 1916.

(8) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of South Branch of Mud Creek, etc., made and entered under date of November 29, 1910.

(9) Decree In the Matter of the Determination of the Relative Rights to the Use of the Waters of West Prong of Little Walla Walla River, etc., made and entered under date of September 11, 1916,—

and that the rights specified in the abstract of water permits issued by the State Supervisor of Hydraulics of the State of Washington, and in the decrees of the Superior Court of that State, Walla Walla County, in the following named cases, to-wit:

(1) Decree In the Matter of the Determination of the Rights to the Use of the Waters of the Walla Walla River, etc., No. 19075, made and entered under date of September 12, 1928.

(2) Decree on Remittitur In the Matter of the Determination of the Rights to the Use of the Waters of Doan Creek, etc., No. 14293, made and entered under date of December 1, 1923.

(3) Decree In the Matter of the Determination of the Rights to the Use of the Waters of Stone Creek, etc., No. 15409, made and entered under date of July 10, 1923,—

are hereby accepted and admitted as the relative individual rights

of the parties named therein, and of their successors in interest, in their respective states, for the use of water, in the amounts, for the purposes, and at the places or on the lands, set forth in said respective permits and in said respective decrees.

II.

That copies of said abstracts of permits and of said decrees shall be admitted in evidence in this case as competent proof affecting the respective rights of the two states, provided that the admission of the same, or of any part thereof, in evidence in this case, shall not be construed as, or held to be, an admission, waiver, abridgment or modification of any of the rights of either state as against the other in this case, relative to the following:

(1) The rights of the Gardena Farms District, successor in interest to the Walla Walla Irrigation Company.

(2) The water requirements of the lands to which water is awarded in any or all of said permits or in any or all of said decrees.

(3) The classification of soils of the lands watered from the streams of the two states.

(4) The past and present physical condition of the Tum-a-lum section of the Walla Walla River in the State of Oregon, and their relation to the diversion of the water of the stream through the Little Walla Walla River to the rights served thereby and to the diversions from the streams in the State of Washington.

(5) The relation of wells and of the rights of the users thereof for irrigation in the State of Oregon, to the stream system and to the rights of lower diverters therefrom for lands in the State of Washington.

(6) The underground waters of the lands in the State of Oregon, and their relation to the supply of water in the stream.

(7) The past and present use of water by diverters of water in Oregon as against diverters in Washington, and its relation to adverse use and estoppel, and the distribution of water in Oregon as a separate stream system.

The second paragraph of Stipulation No. 2 eliminates issues relating to the right of the City of Walla Walla, of Attalia Irrigation District and issues relating to rights on Touchet river in Washington and relating to rights on Goodman spring branch, Dugger creek and Johnson creek in Oregon and settles the rights on Mud and Pine creeks and their respective tributaries as between the two states.

The remaining specific issues tendered by the parties are substantially as follows:

1. PRIORITY OF GARDENA FARMS DISTRICT'S RIGHT

(1) The contention of the State of Oregon as set out in Stipulation No. 6 (Nov. 29, 1933) is that the rights of Gardena Farms District are not legally entitled to a priority date of 1892 for the reason that the original appropriators and their successors in interest were not and have not been diligent in the application of water to a beneficial use and the doctrine of relation does not apply to such rights; that the several tracts of land now irrigated from the works of the district are entitled to a priority date only as of the year in which each respective tract was first irrigated and that lands not yet irrigated are entitled to no water right.

(2) The State of Oregon further contends that the intention of the original appropriators was to irrigate such lands along the canal and laterals and in the vicinity of the lands of the Gardena Farms District as might be watered by gravity from a canal running southwesterly from the point of diversion into the State of Oregon and finally northwesterly back toward the Walla Walla river below the present Town of Touchet; that approximately 1675.6 acres of lands now irrigated in the district in that territory could not have been irrigated by gravity under the original plan (Oregon Exhibit 39); that the intention of the original appropriators was changed in 1904 when construction was begun of a shorter canal running more directly to the Gardena District territory with a siphon across Pine creek valley which delivers the water at a higher elevation and that the change of intention created

a new appropriation for these lands with priority dates beginning in the year 1904 and thereafter as each tract of land was first irrigated; that said dates of priority are substantially that shown by the dates of the contracts of sale listed in the agreed statement of facts.

(3) The State of Oregon further contends that the rights for lands in Oregon are vested and superior to the rights of the Gardena Farms District by reason of adverse use and estoppel.

(4) The State of Washington contends that the rights of the Gardena Farms District are as set forth in the Referee's report and decree of the Superior Court of the State of Washington in and for Walla Walla county in the case of *Washington v. Achermann et al.*, submitted in evidence in this cause as Washington Exhibit 11 and as set forth in the certificate of water right referred to as Exhibit "A" in Stipulation No. 5 herein.

(5) The State of Washington further contends that the priority of the right of the Gardena Farms District, under the admitted facts relating thereto, is not an issue in this case. The position of the State of Washington in this connection was stated in its objection to the submission of testimony calculated to attack the right of this district, which objection is stated in full at page 258 of Washington's Narration of Testimony, in connection with the narration of the testimony of E. C. Burlingame, witness for the State of Oregon. The objection will not be repeated here.

(6) The State of Washington further contends that the facts agreed upon in Stipulation No. 5 and the evidence submitted before the Special Master herein not

only fail to sustain the contentions of the State of Oregon with respect to this right but prove *affirmatively* that the original appropriators and their successors in interest at all times exercised reasonable diligence in consummating the appropriation initiated in the year 1892 and that from the beginning and at all times thereafter the original appropriators and their successors in interest initiated and made said appropriation with the intention and purpose of irrigating the lands in the Gardena Farms District and the other lands now irrigated from the works of the district, and that there was at no time during the consummating of this right any change of intention to carry out the original and continuing object of the appropriation.

### 2. WATER REQUIREMENTS

(1) The amounts of water allotted in the several decrees, state permits and certificates of water right for lands in the State of Washington are challenged in the answer of the State of Oregon to the bill of complaint. These amounts are not mentioned in Stipulation No. 7 relating to water requirements and no evidence was introduced by the State of Oregon in support of the allegations of the answer relative to the duty of water for lands in the State of Washington. We assume that the State of Oregon is making no point in this case at this time of the duty of water for lands in the State of Washington.

(2) In the statement of issues set out in Stipulation No. 7 the State of Washington specifies its contention as to water requirements for each type of soil indicated on F. O. Youngs' soil map (Washington Exhibit 15). These soil types are combined in the stipulation into five groups

for water requirement purposes, and the water duty is alleged in terms of running water but limited for an irrigation season of 6½ months in terms of volume of water. The evidence submitted in behalf of the State of Washington before the Special Master herein, was based on a further combination of these soil types into two groups and the same duty of water was specified for all the types of soil falling in each of the two groups. To simplify the issues involved, we will adopt the grouping of soils used by the witnesses for the State of Washington. These two groups will be referred to as Group A and Group B. Soil types included in Group B are the soils underlaid with gravel and are indicated on the soil map (Exhibit 15) as Types 2-B and 3. Soil types included in Group A are the soils of better water-holding capacity and include all the other types indicated on the soil map.

The contention of the State of Washington is that the water requirement for lands in Group A should not exceed 1/80th c.f.s. (½ miner's inch) for each acre of land measured at the diversion point on the natural stream and that the water requirement for lands in Group B should not exceed 1/40th c.f.s. (1 miner's inch) for each acre of land measured at the diversion point on the natural stream.

(3) The contention of the State of Oregon relative to water requirements, as alleged in Stipulation No. 7, is that "the rights of said state and of its citizens and water users to the use of surface waters of said state are as fixed by the decrees of the courts of said state, and the permits for the appropriation of water issued by the

state engineer of the said state and by the use of said waters."

(4) The State of Washington does not for the purpose of this action question the water requirement fixed by the State Engineer of Oregon in permits issued by that officer.

(5) The State of Washington does not for the purpose of this action question the water requirement fixed in the decree of the Circuit Court of the State of Oregon for Umatilla county determining the rights on the west prong of the Little Walla Walla river (Washington Exhibit 9). The State of Washington does not for the purpose of the injunctive relief sought in this action question the water requirement fixed in the decree of the Circuit Court of the State of Oregon for Umatilla county on mandate determining the rights on the Walla Walla river (Washington Exhibit 1) for the lands irrigated by the Milton-Freewater and Hudson Bay Company.

(6) The State of Washington questions the water requirement fixed in said decree (Washington Exhibit 1) for all other lands described therein in so far as the same is greater than that contended for by the State of Washington.

(7) The State of Oregon further alleges in Stipulation No. 7 that any limitation of water on an acre-foot basis is impracticable and would destroy the flexible use of the water to which the water users have acquired a right.

(8) The State of Washington denies that a right to a flexible use of the water in excess of the water requirement contended for by Washington, has been acquired by

any water user in the State of Oregon and denies that any limitation of water on an acre-foot basis is impracticable.

(9) The State of Oregon further alleges that it, its citizens and water users are entitled to the respective amounts awarded to and used by them on the lands in the related area by virtue of vested rights, the statute of limitations, adverse use and estoppel, the legal sufficiency of which claim is challenged by the State of Washington.

(10) In the testimony submitted before the Special Master, witnesses for the State of Oregon testified that it would be impossible and impracticable to administer and regulate the distribution of water to the several lands in the related area in Oregon for soils of different water requirements in accordance with the soil classification indicated on F. O. Youngs' soil map (Washington Exhibit 15). The State of Washington contends that for the purpose of determining the relative rights of the two states in and to the waters of the stream system in the instant case, the diversion duty of the several individual rights on the stream may be aggregated and averaged at the diversion points on the natural streams.

### 3. WELLS

(1) The State of Washington contends that the ground water in, adjacent to, and along the Walla Walla river in the Milton-Freewater territory, comes from the stream through the narrow gap immediately above; that this ground water is not fugitive percolating water, having an unknown destination, but is stream seepage water flowing freely, generally along with and toward the stream channel; that it constitutes a part of the surface

stream itself and is simply an incident thereto; that the use of water from wells in this territory during the summer irrigation season in each year intercepts a source of natural supply of the water of the stream system, reduces the natural supply of the waters of the river for use in the State of Washington and deprives the State of Washington, its citizens and water users of their just and equitable share of the waters of the stream system.

(2) In accordance with Stipulation No. 9 (Dec. 9, 1933) the State of Washington alleges that the State of Oregon, its officers and agents have sanctioned and permitted the use of, and the users of the waters of said wells have used and are using said waters for irrigation in excess of the amounts necessary for said purpose, without regard to the rights of the lands to water by surface diversion from the stream system, and without regard to the rights of the diverters of water from the stream system to the benefits of the natural underground drainage to the stream.

(3) The State of Oregon as set forth in said Stipulation No. 9 (Dec. 9, 1933) contends and alleges that the waters in said wells were and are percolating waters in the soil of said landowners and belong entirely to said landowners under the laws of both the States of Oregon and Washington; that the ownership of said percolating waters and the right to the use thereof is a vested property right and neither the State of Oregon nor the State of Washington has any right to regulate the use of such percolating waters under the laws of either state; that the wells in the State of Oregon and the water therein constitute no part of the Walla Walla river or its stream system, and the regulation of the use of said percolating

waters is not within the jurisdiction of this court; that the pumping of waters from said wells does not appreciably affect the supply of underground water and in no way injures any citizen or water user of the State of Washington, or deprives them of any water; that the wells used for irrigation were dug and equipped at a large expense; that the pumping of water therefrom, on account of the cost of power and the depreciation of equipment, costs each user large sums of money each year and that said expenditures regulate the extent of the use of said wells and said wells are used only for a beneficial use and as a supplemental supply, as and when the supply of surface water to the respective well owners from the streams and springs diminishes, or is shut off on account of insufficient water in such streams and springs to supply the appropriations.

**4. ADVERSE USE, ESTOPPEL, VESTED RIGHTS, TUM-A-LUM RIVER, AND SEPARATE ADMINISTRATION IN OREGON**

(1) In accordance with Stipulation No. 10, the State of Oregon contends and alleges that it and its citizens and water users have acquired by adverse use and prescription the right, which has now become vested, to use all or so much of the waters of the Walla Walla river and its tributaries as is required to supply the appropriations of the citizens and water users of said state in the amounts for the acreages set forth in the court decrees and state permits of said state without regard to any right or claims of right of any diverter lower on the stream in the State of Washington.

(2) The State of Washington, reserving its rights under the motion to strike affirmative defenses previously

filed with the Court in said action and asserting its contention and claim thereunder, and challenging the legal sufficiency of Oregon's affirmative defenses, contends and alleges, among other things heretofore mentioned, that the State of Oregon, its citizens and water users have no vested rights against the State of Washington, its citizens and water users, to the waters of the Walla Walla river and its tributaries in excess of the amounts reasonably necessary for their respective economical beneficial uses, according to their respective priorities as set out in the Oregon decrees and permits referred to in Stipulation No. 1 in their relation to the rights and the respective priorities thereof of the citizens and water users of the State of Washington, also referred to in said Stipulation No. 1, to the waters of said stream system.

(3) The State of Oregon further contends and alleges in Stipulation No. 10 that the State of Washington, its citizens and water users are estopped from asserting any right to the use of the waters of the Walla Walla river and its tributaries flowing in Oregon as against or prior to any appropriation in the State of Oregon by the citizens and water users of said state, on the ground that the citizens and water users of Oregon have spent time and money in providing for water, in developing and improving their lands, and in creating community settlements dependent upon the use of this water; that a withdrawal of this water or any portion thereof, would render the Oregon lands barren and their improvements and development valueless and would result in irreparable damage and injury to the State of Oregon, its citizens and water users; that the State of Washington, its citi-

zens and water users at all times had full notice and knowledge of this use of water and of this improvement and development and made no protest, took no steps to prevent the same and asserted no claim of right to use said waters as against the State of Oregon, its citizens and water users.

(4) The State of Washington denies that the State of Oregon, its citizens and water users have any vested water rights by reason of estoppel or otherwise, as against the State of Washington, its citizens and water users, any different or having any greater legal effect, from the vested water rights of the State of Washington, its citizens and water users, as against the State of Oregon, its citizens and water users, and alleges that the State of Washington, its citizens and water users have also relied on their appropriations, diversions and use of water and have expended money and labor for similar purposes and with like results as that mentioned by Oregon.

(5) The State of Oregon further contends and alleges that at all times from the beginning of irrigation in the State of Oregon, said state, its citizens and water users have distributed and used the waters of the Walla Walla river and its tributaries for irrigation, domestic, power and manufacturing purposes as a stream system wholly in Oregon, separate and independent of any part thereof in the State of Washington, and beginning with about the year 1888, such use and distribution of water has turned all water, not necessary for irrigation, out of the Tum-a-lum, into the Little Walla Walla river, and rendered the Tum-a-lum river in Oregon dry during the months of July, August and September of each year, and during a part of June and a part of October in many

years; and all appropriations and diversions of water in the State of Washington made after said year of 1888 were made with notice and knowledge that said Tum-a-lum river went dry each year during the said dry season, and subject to the limitation of water supply occasioned by said stream going dry during said season, and without the intention of claiming or asserting any right to have water flow in said Tum-a-lum river during said dry season. That the Tum-a-lum river in Oregon is a losing stream and its continuation in Washington, as the Walla Walla river is a gaining stream, and at the time in each year the Tum-a-lum river in Oregon goes dry, there remains flowing in the Walla Walla river and its tributaries in Washington more than sufficient water to supply all claimed rights. Said Tum-a-lum river is a stream with a bed from 100 to 1,500 feet wide in a coarse, gravelly soil, through which the water readily sinks and percolates, and to conduct water in said channel during said dry season would require the full flow of the stream and would cause an unreasonable waste.

(6) The State of Washington denies that the citizens and water users of the State of Oregon have any vested rights as against the State of Washington, its citizens and water users, by appropriation, diversion, adverse use, prescription, estoppel, or otherwise to any water of the Walla Walla river and its tributaries by reason of the contention and alleged claim; that at all times from the beginning of irrigation in the State of Oregon, said state, its citizens and water users, have distributed and used said water for irrigation, domestic, power and manufacturing purposes as a stream system wholly in Oregon, separate and independent of any part

thereof in the State of Washington; and the State of Washington alleges that the Walla Walla river and its tributaries constitute an interstate stream system; that the natural downward course of water is continuous through the same; that the natural loss of water in the Tum-a-lum section of the stream is not excessive, the gradient in the same being approximately 60 feet to the mile; that the water naturally disappearing in the surface of said section remains in the stream system, and contributes to the supply of the water of the river and its tributaries in the State of Washington; that the State of Oregon, its citizens and water users, do not, and cannot, legally have, as against the State of Washington, its citizens and water users, the exclusive right to the waters of said stream system or any part of the same in the State of Oregon; that the surface supply of water in the stream system during the summer irrigation season in each year is inadequate to satisfy all the individual rights on said stream system according to their respective priorities in both states; that the distribution and use of the waters of the Walla Walla river and its tributaries by the State of Oregon, its officers, agents, citizens, and water users, as a stream system wholly in Oregon, separate and independent of any part of said system in the State of Washington, to the extent to which the same may in any year have been accomplished, without regard to the rights of citizens and water users of the State of Washington, reduces the natural supply of the waters of the river for use in the State of Washington and deprives the State of Washington, its citizens and water users, of their just and equitable share of the waters of the stream system.

(7) The State of Washington further alleges that as against the State of Washington, its citizens and water users, the decrees of the courts of the State of Oregon, and the permits of the state engineer of said state, neither determine nor fix any rights, except as admitted in this cause.

(8) Stipulation No. 10 provides that the affirmative allegations on the part of the State of Washington are deemed denied by the State of Oregon, except as admitted in any statement of agreed fact filed or to be filed in this case.

By order of this Court (February 20, 1933) Hon. William W. Ray was appointed Special Master with authority to take evidence and directed to make findings of fact and conclusions of law and to submit the same to this Court together with his recommendations for a decree.

In accordance with this order the Special Master heard the case on the stipulations of fact and oral testimony involving the issues tendered by the pleadings and stipulations of the parties, and has submitted to the Court his findings of fact, conclusions of law and recommendations for a decree. (Sp. M. R. pp. 1-2.) It is recommended in the Special Master's report that a decree be entered dismissing complainant's bill of complaint. (Sp. M. R. p. 115.)

The case is now before the Court on the record agreed upon by stipulation of the parties under date of September 21, 1935, approved by this Court, the Special Master's report and exceptions thereto filed by the complainant.

## II.

## ARGUMENT

### REVIEW OF COMPLAINANT'S

### *1. Exceptions to Special Master's Report*

A statement of the causes of exceptions is set forth in the complainant's exceptions to the report of the Special Master. These causes will be considered here under the same titles and substantially in the same order in which they appear in the statement.

### (I)

### As to Findings of Fact

1.) It is believed that the report of the Special Master passes over and fails fully to consider physical conditions of the stream system which have an important bearing on the issues and should be considered by the court in determining this case. A suggestion of these physical conditions is found in the statement of the forepart of this brief. They consist, among other things, of the extremes of water supply in the fall and spring which tend to lead to erroneous conclusions as to the fairly constant supply of the stream in the summer low water flow; the old stream channels, which are used to transport water and which constitute a wasteful system of water distribution—just as wasteful relatively, in our view, as the natural channel of the Tum-a-lum section of the main stream in Oregon, which latter channel, Oregon claims, for this reason, cannot be used to transport water during the summer low water flow, for the use of water users in the State of Washington; the ground water reservoir under the Milton-Freewater fan,

which is being diffused by irrigation from 300 wells tapping the same.

(1) The Master's report assumes that the summer flow of the Walla Walla river is sporadic and unreliable. It is stated (p. 53):

"All of the streams contributing to the Walla Walla River are supplied in the main from the snow falling during the winter period in the Blue Mountains. With the warmer temperatures of spring these snows are melted and the streams carrying off this water attain their highest stream flow. As the temperature is variable, so the stream flows are variable. They vary not only between the spring and the summer, but they vary from day to day and from month to month. Warm winds and sunshine give them a large supply and colder weather shrinks them. The summer rains covering 150 square miles of drainage area are gathered into these streams and augment their flow.

"An agricultural community cannot develop and maintain itself upon sporadic supplies of water. The farmer must be able to place reasonable dependence upon the water supply if he shall make the expenditures and put forth the effort necessary to reap the harvest incident to the combination of the soil with the water."

It is made to appear from the foregoing that the summer supply of the river is intermittent and not dependable and that the water users of Oregon are, therefore, justified in claiming the right to, and having available, excessive amounts of water much of the time to insure themselves with sufficient water in the intervals of limited supply.

In our view, the summer flow of the stream is not sporadic but dependable. A tabulation of the stream measurements for a period of the last 15 years is hereinabove set out. This tabulation shows that when the flow of the river is below the mean flow for each month

in the months of July, August and September, it is on the average within 93% of the mean. A minimum flow which varies less than 7% may obviously be considered dependable and fairly constant.

It is submitted that the summer stream flow in the main stream in Oregon is not of such an unreliable character that the Oregon water users are for that reason entitled to an excessive allowance of water for irrigation. When it is considered that a blanket maximum allowance of 1½ miner's inches per acre continuous flow has been fixed in the general Oregon decree (Wash. Ex. 1) for the greater part of the lands in the related area comprising a considerable acreage of higher water duty soils, it appears to us, that more than ample provision is made by this type of award of water allotments, for the fluctuation in the stream supply during the summer low water period.

(2) The Special Master's report, it appears to us, overlooks the physical conditions of the stream system in the statement on page 54 thereof, to-wit: "The evidence is uncontradicted that each year from 1880 to 1930, when the spring high water ceased, the irrigators within the State of Oregon continuously and without interruption and without protest, appropriated to their use all of the flow of the Walla Walla river rising above the Red bridge."

This statement has a bearing on the issue of estoppel and adverse use claimed on the part of Oregon and overlooks the progressive development of lands in the related area in Oregon and the gradually increased use of water on the Milton-Freewater fan in Oregon and

implies that beginning with the year 1880, the Oregon water users appropriated *all* the waters of the stream arising above the Red bridge. This statement disregards the physical conditions which manifestly contradict the correctness of the conclusion.

It would be a physical impossibility for the water users of Oregon *to use* all the water of the main stream after the spring high water had ceased in each year from 1880 to 1930. An examination of the tabulated priorities and approximate acreages contained in Stipulation No. 3 herein (Sp. M. R. pp. 36-37) shows that in the year 1880 there were 1137.65 acres using water from the Walla Walla river as a whole. If from this total of 1137.65 acres, the amount of the rights on lower spring branches with priorities of that or earlier dates, amounting to 361 acres (Wash. Ex. 1) are eliminated, the remainder is 776 acres of land using water from the upper river including the Little Walla Walla dividing at the Red bridge. If the mean flow of the river during the summer months for the 15 year period, to-wit: 119.05 c.f.s., is taken as the amount of the flow of the upper river in 1880, it would mean a diversion in that year of 1 c.f.s. for every 6½ acres of land irrigated or 9⅓ acre feet per month.

In 1885, using the same method of calculation, the acreage entitled to water from the upper river was 1278 acres (Wash. Ex. 1) using the mean flow as the amount of water available in the upper river, the diversion in that year would have been 1 c.f.s. for every 10¾ acres of land irrigated or approximately 5¾ acre feet per month.

In 1890, by the same method of calculation, the 1745 acres then entitled to water from the upper river (Wash. Ex. 1) would have used 1 c.f.s. for every 14⅔ acres of land irrigated or 4⅙ acre feet per month. In 1895 the 2457 acres then entitled to water from the upper river (Wash. Ex. 1) would have used 1 c.f.s. for every 20⅔ acres of land irrigated or 3 acre feet per month.

While against these amounts must be charged natural channel transportation losses in some instances, such losses would not change the result sufficiently to show such deluges of water could have been beneficially used or legally appropriated. In our view, excessive diversions cannot legally consummate appropriations for the amounts of the excess. Waste of water is not tolerated in arid regions.

*Atchinson v. Peterson*, (1874) 1 Mont. 561, 87 U. S. (20 Wall) 507, 22 L. ed. 414;
*Combs v. Agricultural D. Co.*, (1892) 17 Colo. 146, 28 P. 966;
*Hugh v. Porter*, (1909) 51 Ore. 318, 98 P. 1083;
*Shafford v. White Bluffs, etc.*, (1911) 63 Wash. 10, 114 P. 883.

The tabulation of priorities and approximate acreages contained in Stipulation No. 3 (Sp. M. R. pp. 36-37) shows a progressive extension of irrigated acreage from the time of the earliest priority on the stream in Oregon to the year 1931.

It is submitted, therefore, that the conclusion in the Special Master's report (p. 58) "that for more than 50 years last past, during the summer irrigation season, the Oregon irrigators have *appropriated* to themselves all the flow of the Walla Walla river at the Red bridge"

could not only not legally have taken place but is inconsistent with the existing physical conditions.

(3) It appears to us that the Special Master's report fails to give full recognition to the physical conditions of the Tum-a-lum section of the main stream in Oregon and the rights of the lower water users in Washington to the use of this natural stream bed along with other natural channels of the stream system for the conveyance of the drainage of the upper river system to the river below in accordance with their respective rights in the stream.

The Special Master's report (pp. 53-54) calls attention to the fact that the bed of the Tum-a-lum river in Oregon in the section between the Nursery bridge and the McCoy bridge varies in width from 150 to 1500 feet and runs through cobblerocks underlain to great depths with gravel and that this channel is an extremely wasteful channel. It is stated that "In order to avoid this waste and to make the waters of the Tum-a-lum river available for use within the State of Oregon, the irrigators began as early as 1898 to put crude and temporary dams across the channel of the river at the Red bridge * * * and thereby and thereafter during periods of low water, diverted all the waters of the Walla Walla river into the channel of the Little Walla Walla river, permitting to flow by said dam only that small quantity of water necessary to supply the right of the East Side ditch, which takes out of the river just below the dam."

The record shows that in any event the drainage of the upper river flows through the Tum-a-lum section

in the fall and in the spring and early summer up to the time or times all the water of the river is diverted at the Red bridge. (Wash. Ex. 18, pp. 77-78.) It must be admitted that springs rise in the channel of the main stream just below the McCoy bridge and that the flow of the stream below is perennial irrespective of any diversion into the Little Walla Walla river at the Red bridge. In our view, the conclusion is inescapable that at least part of the drainage of the upper river proceeds down stream underneath the surface of the channel in the Tum-a-lum section and again reaches the channel surface near and below the McCoy bridge. This naturally follows from the fact that the only source of the waters of the stream at this place is from the upper drainage and ground water. (Wash. Nar. T. p. 235.)

The diversion of the main stream into the Little Walla Walla river at the Red bridge is into a natural channel which carries the water to other distributaries below which are also natural channels. The natural channels run over the Milton-Freewater fan above the same type of subsoil as that underlying the Tum-a-lum section of the river. The waste of these natural channels is great. This waste in the natural channels is mentioned by Oregon as one of the reasons which justify the Oregon water users in securing an unusual supply of water for irrigation.

That the Washington water users should be deprived of water for the reason that a section of the river through which part of their water must travel is wasteful and at the same time that Oregon users should be awarded an unusual amount of water for the same reason that the Washington users are deprived of it, ap-

pears to us, to be inconsistent and prejudicial to the rights of the State of Washington in the stream system.

(4) In considering the Tum-a-lum section of the main stream in Oregon as the principal channel through which water must flow to the State of Washington for the use of Washington irrigators, the Special Master's report gives little consideration to the fact that the Little Walla Walla river and the Crockett and Ford branches have direct natural connection with the heads of natural tributaries leading to the main stream in Washington.

It is stated (Sp. M. R. pp. 55-56):

"The testimony shows that as early as 1891 there was being irrigated from the Walla Walla River, through the Little Walla Walla River, within the State of Oregon something more than 2200 acres of land. (Stip. No. 3.) Whatever this amount of land was, the diversion of the water of the Walla Walla River at the Red Bridge was complete and continuous. The use may not have been as economical as modern irrigation methods, in a developed agricultural district, would indicate, but the fact remains that all of the water was taken and that it did not during the same period, return directly to the channel of the Walla Walla River through the Ford branch or the Crockett branch, which are the channels which would have conducted any excess diversion back into the main river." (Wash. Ex. 17, Or. Abs. pp. 3, 7, 33, 34, 42, 48.)

If, as we contend, the diversion of water by Oregon irrigators through these natural channels has been excessive and also has been used to satisfy rights in Oregon junior to rights below in Washington, there is no physical reason why the proper amount of water should not be permitted to flow down these natural channels to the Washington streams for use in Washington. Measurements of the lower Ford and lower Crockett branches

in the year 1933 revealed 25 c.f.s. of water flowing in the Crockett and 26 c.f.s. of water flowing in the Ford, making a combined capacity of these two branches of at least 50 c.f.s. (Wash. Nar. T. p. 89.)

(5) In substance the conclusion of the Special Master's report is that Oregon is entitled to the water of the main stream in Oregon and that Washington is entitled to the water of the Mill creek tributary. While the records of measurement of the annual flow are incomplete, the annual Mill creek flow may be estimated at from ⅓ to ⅔ of that of the main stream. If the proportional flow is taken in the summer months of July, August and September, it is about ⅓. The average total available summer water supply (July, August and September) in the related stream system, from all sources is about ⅓ in Washington and ⅔ in Oregon, while the proportion of acreage in each state irrigated from the stream system is about the reverse of that of the average available water supply. Washington with ⅔ the irrigated acreage has ⅓ the available water. While there are many elements to be taken into consideration in determining an equitable apportionment of water on an interstate stream, and the above may be regarded as suggestive only, the differences in the respective requirements of the two states and in the respective amounts of water available for each do not, in our view, render the apportionment suggested in the report equitable as between the two states. The fraction ¼ used in this exception is an error and should have been ⅓.

(6) Stream channels along the upper river are utilized in connection with the distribution of water in

Oregon. These are referred to in the exceptions as old abandoned stream channels. These channels are abandoned only in the sense that the river has abandoned them except in times of high water. They are natural stream channels. The loss in these channels is considerable. (Wash. Nar. T. pp. 12-16.)

It is believed that the loss of water in these natural channels in Oregon should be given consideration in determining the rights of the two states in the stream system.

(7) The maximum award of water per acre in the general Oregon decree (Wash. Ex. 1) is 1½ miner's inches (.0375 c.f.s.) per acre. There is also a further provision in the decree awarding additional water for small individual tracts. (Wash. Ex. 1 p. 90.) There is a provision in the decree, however, that the amount of water used shall not exceed the amount reasonably required for beneficial use. (Wash. Ex. 1 p. 90.)

While recognizing that vested rights in water in Oregon should be acknowledged, it is our view that the duty of water fixed as a maximum in the general decree was not vested beyond the amounts that could reasonably be beneficially used, in view of the provision in the decree limiting the awards to the amount reasonably required.

Water permits issued by the State Engineer of Oregon fix the duty of water at ½ a miner's inch per acre. (Wash. Ex. 10.) The use of water under these permits is in the same general locality as that under the decree. The official determination of the State Engineer on such matters, it appears to us, should be given great weight.

The Special Master's report, however, while dealing at length with the testimony of expert witnesses and of farmers who claimed to require the maximum allotment provided in the decree (Sp. M. R. pp. 75-100) apparently gave little consideration to the official determination of water duty for that locality by the State Engineer.

(8) A practice has been established in Oregon of permitting landowners below the place of use of water to use the excess or tail water from the ditches rather than to require the owner of the right to return the water to the ditch or natural stream. This is locally called "waste" water. In some instances, use of so-called waste water might be justifiable because it otherwise would go to waste. In the instant case, however, about 700 acres are using so-called waste water in the Milton-Freewater territory. (Wash. Nar. T. p. 15.)

The Special Master's report does not appear to have given the practice of using waste water any controlling weight in connection with the methods of water use in the related area in Oregon.

(9) The report of the Special Master with respect to the existence of 300 wells used for irrigation on the Milton-Freewater fan, after setting forth the substance of the testimony of Arthur M. Piper, a geologist employed by the United States Geological Survey as a specialist in the study of ground water (Sp. M. R. pp. 100-108), concludes that since the water pumped from the wells is used exclusively upon the tract of land on which the well is located, the use of the wells for irrigation may be sustained on the ground that the landowner

is using his well to recapture, in part at least, water previously used and lost in deep percolation. The doctrine of recapture will be considered later in this brief.

This exception relates to the question whether the depletion of the hydraulic head of the stream system in Oregon by the use of these wells is of sufficient consequence to receive consideration in determining the relative rights of the two states in the river.

During the period from April to September inclusive in the year 1932, 9010 acre feet were pumped from these wells. In the months of July and August of that year, approximately 45 c.f.s. were pumped from the wells and used for irrigation. (Wash. Ex. 18.) Washington's Exhibit 29 contains a tabulation of the locations and dates when dug of 80% of the wells used for irrigation in Oregon. This tabulation shows a progressive extension from year to year up to and including the year 1934 in the number of these wells.

The Special Master finds that there is no satisfactory proof that the use of the water from these wells materially lessens the quantity of water available for use within the State of Washington. (Sp. M. R. p. 111.)

The aggregate amount of water drawn from these wells and used for irrigation equals approximately 30% of the average summer river channel supply of water in the river system in the related area, and it appears to us that the use of this amount of water from the acknowledged sources of the river supply is entitled to greater consideration in connection with the rights of the two states than that given it in the Special Master's report.

(10) As heretofore pointed out, the supply of water in the stream system is generally sufficient to satisfy all the substantial rights on the streams in the two states in the spring and, in years of abundant precipitation and favorable temperature, in the early summer. (Wash. Ex. 18 pp. 77-78.)

A substantial part of the water supply of the main stream has always been used by irrigators in the State of Washington. However, the claim of the State of Oregon is apparently that the use of water of the main stream in Washington is by sufferance only on the part of Oregon. The claim of Oregon in this regard is set forth in paragraph 1 of Stipulation No. 10 as follows:

"By appropriation, diversion and use the State of Oregon, its citizens and water users, have acquired by adverse use and prescription the right to the use of *all* or so much of the waters of the Walla Walla river and its tributaries flowing in Oregon as is required to supply the appropriations of the citizens and water users of said State according to the priorities and in the amounts and for the acreages as set forth in the decrees of the Courts of said State, and the permits issued by the State Engineer of said State; and said rights of said citizens and water users of said State are rights vested in the citizens and water users of the State of Oregon by said appropriation, diversion, adverse use and prescription without regard to any claim of right or diversion or use on the part of any lower diverter from said stream in the State of Washington, and are prior in time and superior in right to any claimed rights of the State of Washington, its citizens and water users."

The findings and conclusions in the Special Master's report, in approving Oregon's claim above set forth, by implication at least, deprives the State of Washington of any right to the waters of the main stream system in Oregon.

Aside from the question of the correctness of such findings and conclusions of the report, it would appear to us that it must be conceded that the State of Washington has some rights in the waters of the stream system in Oregon and that these rights should be more clearly defined than in the Special Master's report.

(11) The State of Oregon claims that the river system in Oregon should be considered, for the purposes of the instant case, as a state stream wholly in Oregon. The claim is set forth in Paragraph III of Stipulation No. 10 and in part is as follows:

"At all times from the beginning of irrigation in the State of Oregon, said State, its citizens and water users have distributed and used the waters of the Walla Walla river and its tributaries for irrigation, domestic, power and manufacturing purposes as a stream wholly in Oregon, separate and independent of any part thereof in the State of Washington, * * *."

The Walla Walla river and its tributaries constitute an interstate river system. Its only source of water supply is from the drainage of the North and South Forks, the main stream and small tributaries above the Oregon-Washington state line. (Wash. Nar. T. p. 235.) The drainage is continuous and natural stream channels cross the line from Oregon into Washington. The findings and conclusions in the report of the Special Master by implication approve the claim of the State of Oregon hereinabove in part set forth and it appears to us fails to give adequate consideration to the physical conditions which, in our view, make such a claim legally untenable.

(12) The correlated water supply of the various distributaries of the Walla Walla river in Oregon has been dealt with herein under sub-paragraph (4) of this title and will not be given further consideration at this place.

2.) In our view, the Special Master's report might have properly presented the evidence or conclusions therefrom more completely in some particulars which will be mentioned.

(1) While the fact that the physical conditions surrounding the source threads of Mill Creek in Oregon do not permit of feasible use of the waters of Mill Creek by Oregon has no substantial bearing on the issues of the case, it is mentioned in the exceptions as not included in the report in a review of Washington rights on Mill Creek. (Sp. M. R. p. 52.)

(2) It is believed that the conclusion in the Special Master's report that a more liberal supply of water should be available to the Oregon water users because of the "sporadic" character of the water supply of the river (Sp. M. R. p. 53) might properly have shown a completer review of the summer low water flow of the stream, which is fairly certain and constant. The character of the summer low water flow has been given consideration hereinabove.

(3) The statement in the Special Master's report (p. 63) "that during the period of high water the Washington users do not need to impinge upon the Oregon users" might be taken to mean that the high water supply of the Mill Creek tributaries is the only source

of the water used during that period in Washington. It is believed that the report might properly have shown that during that period the flow from the main stream and tributaries crossing the state line into Washington is made use of by Washington users.

The high water flow of the stream system is generally sufficient to satisfy all the substantial rights in both states and is not in controversy in the instant case except in so far as the conclusions in the report might be construed to award *all* the waters of the stream system in Oregon to the State of Oregon.

(4) It is believed that in considering the relationship of the Milton-Freewater Hudson Bay Irrigation Company of Oregon and the Walla Walla Irrigation Company of Washington and the question of notice of intention of the former company to take water of the Walla Walla river in Oregon, the report of the Special Master (Sp. M. R. pp. 63-64) would have given a truer picture of the situation had the report shown the common ownership and management of the two companies and the practice of the two companies with respect to winter irrigation. (Wash. Nar. T. p. 64, Ore. Abst. p. 23.)

(5) In dealing with the appropriation for the Gardena project in Washington, the report of the Special Master refers to the telegraphic demands by the State Supervisor of Hydraulics of the State of Washington upon the State Engineer of Oregon for water from the river system in Oregon for use in Washington (Wash. Exs. 24, 25 and 26) and states that the Gardena canal had been receiving 116 c.f.s. under a decree allowing it

but 66.67 c.f.s. and that on the day before the first telegram was sent, the Gardena canal was still receiving 68 c.f.s., an amount near its decreed right. It is also pointed out in the report that the Washington water master did not begin to regulate the Washington users in that year until June 10 and did not close all rights with priorities subsequent to 1892 (the priority of the Gardena right) until July 6th. (Sp. M. R. p. 66.)

It is believed that the report in dealing with this situation should also have called attention to the practice in both states of encouraging water users to begin diversions early in the season with the view of storing water in the soil to reduce to some extent the amount of water required in the low water period (Wash. Ex. 11, Ref. Rep. p. 5, Ore. Abst. p. 56), which would have shown the reason for the over-diversion of the Gardena canal in April of the year 1930. The report might further have shown in this connection that there had been a sudden drop in the river in April of that year (Wash. Nar. T. p. 39), but that a big rain occurred on June 2nd and relieved the situation so that rights with priorities subsequent to 1892 were not closed in Washington until July 6th.

(6) It is stated in substance in the report of the Special Master that the conduct of the manager of the Gardena project in attempting to secure the return sewage supply of the city of Walla Walla and in attempting to secure additional water by wells seems entirely inconsistent with the present claim made by the plaintiff state for water arising in the stream system in Oregon. (Sp. M. R. p. 69.) It is believed that the conclusion

stated in the report disregards the fact that during the period these attempts to secure additional water were being made a substantial part of the supply for the Gardena canal came from the streams crossing the state line from Oregon into Washington.

The Washington watermaster during the years 1917 to 1922 testified that during that period he had no authority to regulate the stream and that with the exception of the East Little Walla Walla river, the tributaries in Washington of the main stream contributed no water during the low water period and that all the supply that reached the point of the Gardena diversion came from the main stream and the East Little Walla Walla river. (Wash. Nar. T. pp. 60-61.)

(7) It is stated in substance in the Special Master's report that during the period after the recession of the high waters, none of the waters of the stream rising above the Red bridge were ever applied to beneficial use within the State of Washington. (Sp. M. R. p. 72.)

It is submitted that the primary source of all the waters in the main stream and other streams crossing the state line into Washington is above the Red bridge in Oregon (Wash. Nar. T. pp. 234-235) and it is believed that the statement in the report is too broad and that it fails to take into account the natural drainage of the river system.

(8) The Washington decree (Wash. Ex. 11) determining generally the relative rights of the Walla Walla river in Washington awards the Gardena project, which was at that time operated by the Walla Walla Irrigation

Company, a right for 7,000 acres, 2,000 acres of which was determined to be inchoate. (Wash. Ex. 11 p. 69.) The decree provides also that certain rights of a priority later in the schedule of rights generally than that of the Gardena project, involving 1,095 acres of land should nevertheless have a priority paramount to that of the Gardena right. This provision is inserted following the statement of the several rights involved under each class in the form of a footnote substantially in the following language:

"Note: Under the provisions of the decree in the case of the Lowden Company, et al., v. The Walla Walla Irrigation Company, records of this Court, all the above lands included in this class taking water from the Walla Walla River are entitled to a priority over the lands included in the claim of the Walla Walla Irrigation Company." (Wash. Ex. 11, pp. 72, 73, 74, 77, 78, 79.)

There is also a provision in the decree limiting the Gardena right to 66.67 c.f.s. during the period from April 1 to July 1 and to 50 c.f.s. from July 1 to October 1 in each year and 1 c.f.s. for each 50 acres of land for winter irrigation; but providing that the inchoate rights might be supplied as consummated. (Wash. Ex. 11 p. 72.)

This limitation providing for different allowances during different respective periods of the year is common to all rights adjudicated in the decree. A general provision similar in character applying to all rights is contained in paragraph 11 of the decree, page 146.

The reason for the limitation of the Gardena right because of the decree in the Lowden Company case is suggested in the Referee's report upon which the decree is based. Existing decrees, agreements and other complicating factors are discussed in the report as entering

into the formulation of a schedule of respective rights and it is stated among other things, that "associated with all these complications is the additional factor of the dual system of rights recognized as existing in this state." (Wash. Ex. 11, Ref. Rep. p. 6.) The reason that certain rights of a later priority generally are given priority over that of the Gardena project in the decree is due to these complications.

The reason for different water allowances in the decree in different periods of the year is also explained in the Referee's report. Among other things, it is stated:

"* * * that a portion of the water applied during the winter, spring and early summer, finds its way thru the soil and reappears in the form of springs or seepage in the lower channels, thus increasing the supply of water available for diversion to lower lands.

"The practice and custom of heavy irrigation during the flood period of the streams has continued for many years and has resulted in bringing under irrigation a considerably larger area than would be possible from the low water flow of the streams unaffected by this irrigation. For this reason it has been thought proper to recognize the beneficial effects to all concerned of heavy early irrigation and to fix for the early season a lower duty of water (that is, a higher rate of application) than during the late season." (Wash. Ex. 11, Ref. Rep. p. 5.)

It is stated in the Special Master's report (p. 67): "The Washington court decreed to Gardena a winter irrigation right of fifty second feet of water." This manifestly is a typographical error. As shown above, the winter right is 1 c.f.s. for each 50-acres of land.

In referring to the limitations of the Gardena right set out in the decree mentioned above, the Special Mas-

ter's report suggests that in fixing these limitations, the Washington court must have proceeded on the same theory as that adopted in the case of *U. S. v. Haga*, 276 Fed. 41, wherein it was held that upper water users on a stream which disappears should not be shut off for lower users on the reappearing water section of the stream where the upper stream makes no contribution during the irrigation season to the reappearing section of the stream. (Sp. M. R. pp. 72-73.)

The limitations of the Gardena right in the Washington decree, it appears to us, were prescribed for the reasons above given and cannot be predicated upon the theory of the *Haga* case as suggested in the Special Master's report.

(9) The Special Master's report asserts that during the low water period from the year 1892 to the date of this trial none of the waters of the Walla Walla river arising above the Red bridge in Oregon was ever used by the lands in the Gardena project and that during the high water season their rights have been adequately supplied by the Washington tributaries. (Sp. M. R. pp. 73-74.)

It appears to us that the record does not support this assertion. As heretofore pointed out, practically the only summer water which the Gardena canal diverted, until the Washington tributaries were regulated in 1929, was from the main stream and the Oregon tributaries entering the main stream above the canal. The source of supply was from Oregon. (Wash. Nar. T. pp. 60-61.) The superintendent of the project testified that the Gardena canal did not go dry at any time in the sum-

mer from 1917 up to the time he left the employ of the company in 1922. A landowner in the district corroborated this statement. (Wash. Nar. T. pp. 58, 64.)

The only Washington tributary of any consequence entering the main stream above the intake of the Gardena canal is Yellowhawk creek. (Wash. Ex. 17.) Measurements at the mouth of Yellowhawk creek were taken in the spring and summer months of 1932 and 1933. Measurements were also taken, during that period, of water entering the Gardena canal. On May 27, 1932, 42 c.f.s. were flowing from Yellowhawk creek into the main stream. (Wash. Ex. 18 p. 174.) On the same day 106 c.f.s. were being diverted into the Gardena canal, an excess of 64 c.f.s. over that being furnished by Yellowhawk creek. (Wash. Ex. 18 p. 11.) So far as the measurements show, at no time during the month of May in that year did the flow from Yellowhawk creek equal the amount of the diversion into the Gardena canal. These measurements further show that on no day in the months of June or July of that year did the flow from this tributary equal the diversion of the Gardena canal. (Wash. Ex. 18 pp. 11 and 174.) The measurements for the period from June 21 to July 31 in the year 1933 show that on no day during this period did the flow from Yellowhawk creek equal the diversion into the Gardena canal. (Wash. Ex. 18 pp. 12 and 175.) A substantial portion, if not all, the diversion of the Gardena canal during the periods covered by these measurements, over and above the supply from Yellowhawk creek, came through the stream system from Oregon.

(10) The statement in the Special Master's report that the Washington Court in the *Achermann* case

(Wash. Ex. 11) found that the use of water in Oregon was a benefit and not a detriment to Washington users (Sp. M. R. p. 74), in our view, is broader than justified by the finding of the referee in that case. The finding of the referee, as shown by the quotation thereof in the Special Master's report, was that the *early* use of water when the supply is usually *abundant*, along the Walla Walla river on the Oregon side of the state boundary line, is a benefit to lower lands later in the season. (Sp. M. R. p. 74-75.) Both the time and place of use in Oregon is limited in the referee's finding. (Wash. Ex. 11, Ref. Rep. p. 4.)

(11) The Special Master's report finds that neither by the evidence nor by the conduct of the appropriators is it shown that the appropriators of the Gardena right had intention to take and use the water then being diverted in Oregon (Sp. M. R. p. 75) and under the law and with due diligence to apply the same to beneficial use in Washington. (Sp. M. R. p. 75.)

The reasonable inference to be drawn from the record and the conduct of the appropriators, it would appear to us, is that the appropriators would not have undertaken and brought to completion a canal of that magnitude and distance to appropriate water from the Washington tributaries only, which the records show flow little water in the summer. The only rational explanation is that the appropriators intended to obtain water coming through the stream system from Oregon. As heretofore pointed out, water has been obtained from that source. It should be noted that the dates of the notices of appropriation for the Gardena project are

1891 and 1892 respectively, and not 1901 and 1902 as stated in the report. (Stipulation No. 5, Exhibits B. C & D.)

(12) The implication of the statement in the Special Master's report (p. 80) that "It is significant that notwithstanding the existence of No. 3 (low duty) lands along Mill Creek in Washington, the State of Washington called no practical irrigators to show that in their experience a lesser quantity of water than that claimed by the State of Oregon for similar lands is sufficient for the proper irrigation and maturity of crops" is that this type of soil is not being successfully farmed in the State of Washington on the high duty of water (.4 miner's inch or .01 c.f.s. per acre) provided for in the Washington decree. (Wash. Ex. 11.)

It should be noted that the Washington duty of water has not been challenged and put in issue in the instant case. The record, however, shows that the No. 3 soil area along Mill creek above the City of Walla Walla and along said creek below and along Stone creek and southwest of the city is extensively cultivated on the Washington duty of water. (Wash. Nar. T. pp. 171-172.)

(13) The Special Master's report finds that even on Washington's assumption that the 300 wells on the Milton-Freewater fan draw a substantial part of the stream supply in Oregon, the owners of the wells, which wells are located on their own respective lands, have the right to use them for irrigation under the doctrine of recapture. (Sp. M. R. p. 108.)

A comparison of descriptions of the lands on which the wells are located (Wash. Ex. 29) with the descriptions of the lands for which stream rights are awarded in the Oregon decree (Wash. Ex. 1) shows that in many instances the well owner's stream right is of later priority and is shut off during at least part of the summer. The doctrine of recapture, it appears to us, could not be invoked, in effect, to advance the priority of the stream right. *U. S. v. Ide*, (1924) 263 U. S. 497, 68 L. ed. 407, 44 S. Ct. 182.

3.) Report incomplete.

(1) The Special Master's report gives little attention to the diversions of water on the river above the canyon at Milton in Oregon. There is no effective regulation of the uses of water in this section of the stream (Ore. Abs. p. 52), although the practice there is wasteful.

Mr. Marvin Chase, a former State Hydraulic Engineer of the State of Washington, testifying for Washington, in substance described the irrigation practice in this part of the stream as follows:

In a stream of this character where the gradient is steep, there are many channels used during high water which are more or less dry during the low water. If water is carried in these for any considerable distance, it is a very wasteful method of diverting water from a stream for irrigation. The use of water for irrigation is detrimental to the lower reaches of the stream. Along the major portion of the Walla Walla river, some water returns from the irrigated land to the stream but in no instance is there as large an amount as what is taken out of the stream, and in no instance does it return to the stream in the later months in time to be of benefit to the lower users on the stream. Excess diversion in the upper reaches, is a very decided loss to the supply of the stream. In the upper reaches of the Walla Walla

river, there is fairly generaliy a wasteful use and a wasteful way of diverting the water. It is wasteful in the excessive amount which is diverted and placed on the land, in the method of diversion, the long by-channels or by-passes made, in the lack of diversion or controlling works and of measuring devices, and in the over-diversion of the amount necessary, allowing the surplus to flow down unused sloughs or channels, oftentimes dry, without returning it to the stream. I am speaking now of the territory from the town of Milton, including both forks of the stream, up to its source so far as irrigation is practiced along the stream. There is both an over-diversion and a wasteful method of diversion along the stream. By over-diversion, I mean that there is an amount diverted in a ditch in excess of that which can be beneficially used on the land or of that which is set out in their permit or decree. In this reach of the stream above Milton, there are very few ditches that have at this time any diversion works, and in nearly every instance, they are of a temporary and of a makeshift character. When I speak of highwater channels for the diversion of water, I mean that there is a brush and rock barrier placed in the stream later in the season when they wish to divert their water, and the water is turned into an old channel for considerable distance and lower down some headgate, diversion work or control is put into their ditch. In nearly every instance an excess amount of water is turned from the river into the particular dry channel or slough, and the excess part where there is a regulation or control, is merely turned on down the slough or only in a very few instances is it returned directly to the stream. That method of diversion results in an excessive transportation loss in this dry or high-water channel and also depletes the stream system proper. It increases the weathered area of the stream to a great extent and therefore adds to the transportation and evaporation loss. People want to use an excessive amount of water because it makes it unnecessary for them to perform as much labor in the diverting and *controlling* of their water and in the irrigating of their land. They make the excessive use of water do the service of the cost of labor and material. It would not be an excessive expense for these landowners up there to put in diversion works. They could use the

material at hand, which consists of logs and rocks, and put in diversion works as lasting as those that might be constructed in a more expensive way. The diversions in that part of the stream are mostly of individual landowners or the copartnership of a few. They are all comparatively small, I think, running probably up from only a part of a cubic foot per second of time to 14 or 15 c.f.s. (Wash. Nar. T. pp. 12-14.)

The measurements of the diversions of this section of the stream in the summer of 1933 showed generally that the diverters at that time were diverting about 50% in excess of their respective decreed rights. (Wash. Ex. 30, Table IV.)

It appears to us that the methods of diversion and of use of water in this section of the stream have a substantial bearing on the issues in the case and should receive more consideration than that given them in the Special Master's report.

(2) The Special Master's report gives no review of the evidence concerning the waste of water from the Milton ditch which diverts water from the river through an old river channel, a pipe line, an open ditch, another old river channel and finally an artificial channel running from three-quarters to a mile from the river to the measuring weir for the ditch. (Wash. Nar. T. pp. 14-15, 81-82, Ore. Abst. p. 54.) This ditch is used to irrigate over a section of land of which about 100 acres are watered from waste water from the ditch. (Wash. Ex. 1, Ore. Abst. p. 59.)

(3) Washington submitted the testimony of a number of witnesses to the effect that the summer supply of the streams running from the related area in Oregon across the state line into Washington in recent years

had diminished. These streams include the main stream of the Walla Walla river, the East Little Walla Walla river and the West Little Walla Walla river. (Wash. Nar. T., Barney p. 39, German p. 22, Hammer p. 24, Hartvedt p. 62, Ross p. 27, Ross p. 30.) The water measurements for the summer months in the years of 1932 and particularly of the year 1933, show a substantial increase in the supply of the stream in Oregon over former years (Wash. Nar. T. pp. 54-55 and 62-63), yet the testimony of these witnesses was that there had been no increase in the supply of these Washington streams coming from Oregon. The inference is clear, it appears to us, that the diminution of the supply in the Washington streams is due to an increased consumption of water above in Oregon.

(4) The record of the measurements of the summer diversions for the Gardena canal since 1928 (Wash. Ex. 18 pp. 11-21) do not fully reflect the amount of diminution of the supply of the East Little Walla Walla river and of the main stream above the Gardena intake caused, as we believe, by increased consumption of water in Oregon because of the inauguration of stream regulation in Washington in the year 1929. (Wash. Nar. T. p. 36.) As already pointed out, prior to 1929 practically no water was supplied to the main stream by the Mill creek tributaries during the summer. The supply then came from Oregon sources. After Washington regulation, the Mill creek tributaries were compelled to furnish water to the main stream in accordance with the relative priorities of rights on the stream system in Washington but Oregon users continued their increased consumption of water in the related area and the supply from that

source formerly enjoyed by the main stream was not restored. The Special Master's report fails to give this situation any significance.

4.) In the instant case the parties entered into stipulation No. 2 which, among other things, provides that the rights on Mud creek and its tributaries and on Pine creek and its tributaries are hereby established and shall be administered and the water shall be distributed to such rights in accordance with the decrees of the courts of the two states and the permits for the appropriation of water issued by authority of the two states, in the same manner as if the state line did not exist, and there are no issues herein in respect thereto.

It appears to us that the effect of this stipulation should not be abrogated by a dismissal of the cause and that a decree should be authorized herein incorporating the provisions of this stipulation. Mud and Pine creeks and their respective tributaries are interstate streams furnishing water for over 4,000 acres of decreed rights in addition to a considerable acreage of permit rights, situated in the two states. (Wash. Exs. 2, 3, 4, 8 and 11.)

5.) The Special Master's report, in dealing with the appropriation of the Gardena project, sets out certain sections of the Washington statute relating to appropriation of water, in force at the time the Gardena right was initiated. (Sp. M. R. p. 67.) Then follows a discussion of the doctrine of appropriation in which it is pointed out that the posting and filing of the statutory notice in itself does not constitute an appropriation but that the posting and filing of the notice must be followed by reasonable diligence in consummating the appropriation. (Sp. M. R. pp. 67-72.) The statement in the re-

port, of essentials of a valid appropriation required under the Washington statute in force at that time is substantially correct. The statute referred to, however, is not exclusive. A valid appropriation might be made at that time irrespective of the statute.

The practical effect of the statute was to extend the doctrine of relation. Without the statute, the priority of the appropriator's right became effective as of the time the first work was done on the ground to initiate the right. Under the statute, the priority of the right became effective as of the date the notice was posted and filed. The work had to be prosecuted with diligence by the appropriator in either case. Under the statute, the diligence required was that prescribed by the statute. Without the statute, the diligence required was that generally recognized by the customs of the time and the decisions of the courts relating to the subject.

There was no law in force in Washington at that time requiring the appropriator to elect whether to proceed under the statute in consummating an appropriation. He might proceed under both forms of procedure and upon consummation of his right he was entitled to the benefits of either with which he had complied. If he failed to comply with the statutory method, he was not entitled to the statutory priority date but to a priority date as of the beginning of actual construction work.

In the instant case, a notice was filed in February, 1892. Actual construction work was begun in August, 1892. (Stipulation No. 5 pp. 2-3.) The water of the river was first diverted into the canal in 1893. (Stipulation No. 5 p. 7.) The only effect of failure to comply with

the statute would be to postpone the priority date from February to August, 1892.

The doctrine of relation recognized in the State of Washington entitles the appropriator to a priority date as of the time of the beginning of the actual work on the diversion works, provided the work has finally been consummated with reasonable diligence.

Wash. Ex. 11, Gardena right p. 69;

*In Re Crab Creek & Moses Lake,* (1925) 134 Wash. 7, 11, 235 P. 37;

*In Re Alpowa Creek,* (1924) 129 Wash. 9, 14, 224 P. 29.

It is believed that the character of the appropriation of the Gardena right should have been given fuller consideration in the Special Master's report.

6.) In our view, the evidence challenging the priority and legality of the Gardena right, submitted by Oregon over the objection of the State of Washington was erroneously received and accepted by the Special Master in determining the rights of the two states in the instant case. The question will be considered later in this brief.

7.) The exceptions mentioned in sub-paragraphs (1) to (7), both inclusive, relating to findings in the summary of findings contained in the Special Master's report, have been generally heretofore considered in this brief and discussion of them specifically will not be repeated at this place.

(II.)

As to Legal Conclusions

1.) We are in accord with the first legal conclusion set out in the Special Master's report, to-wit: that this Court has jurisdiction of this controversy as a controversy between two states to determine the rights of the parties to the use of the waters of an interstate stream. (Sp. M. R. p. 114.)

2.) The second legal conclusion in the report in substance is that the Gardena project under its appropriation is not entitled to any of the water of the Walla Walla river arising above the Red bridge, because:

(a) Since 1880, the Oregon users have diverted and used such water without protest on the part of Washington users unt. 1930.

(b) None of such water has been put to a beneficial use during the irrigation season under the Gardena filing.

(c) If the Gardena appropriators ever had any intention of appropriating such water, such intention was abandoned before the commencement of this action.

(d) Over a period of forty years, the Gardena appropriators have recognized the right of the Oregon appropriators to use all of such waters during the irrigation season.

This legal conclusion is excepted to for a number of reasons set out in the complainant's exceptions, which will be more fully considered later herein.

3.) The third legal conclusion in the Special Master's report, to which exception is taken, is that the State

of Oregon and its appropriators are not diverting and using more of the waters of the Walla Walla river than their equitable proportion thereof. This legal conclusion will receive further consideration later herein.

(III.)

AS TO RECOMMENDATIONS FOR A DECREE

The Special Master's report recommends that a decree be entered herein dismissing complainant's bill of complaint.

The complainant's exceptions to this recommedation will receive consideration later in this brief.

*2. Summary of Complainant's Contentions*

It is thought appropriate at this place to set out briefly a summary of the complainant's contentions with respect to the principal issues involved in the instant case.

(I.)

JURISDICTION

*1.) A Controversy Between States*

The jurisdiction of the Supreme Court of the United States is invoked in this case under authority of section 2 of article 3 of the Federal Constitution extending the powers of that tribunal to controversies between states in the Union and in accordance with the rule announced in the case of *Kansas v. Colorado* (1906), 206 U. S. 46, 51 L. ed. 956, 27 Sup. Ct. Rep. 665; (1902) 185 U. S. 125, 46 L. ed. 838, 22 Sup. Ct. Rep. 552, construing section 2 of said article 3 to include controversies between states

over the water rights on interstate streams. See also in this connection:

*Wyoming v. Colorado* (1924), 259 U. S. 419, 66 L. ed. 999, 42 Sup. Ct. Rep. 552; (1931) 286 U. S. 494, 76 L. ed. 1245, 52 Sup. Ct. Rep. 621;

*Arizona v. California* (1931), 283 U. S. 423, 75 L. ed. 1154, 51 Sup. Ct. Rep. 522;

*Connecticut v. Massachusetts* (1931), 282 U. S. 660, 75 L. ed. 602, 51 Sup. Ct. Rep. 286;

*New Jersey v. New York* (1931), 283 U. S. 336, 75 L. ed. 1104, 51 Sup. Ct. Rep. 478;

*Wisconsin v. Illinois* (1930), 278 U. S. 367, 73 L. ed. 426, 49 Sup. Ct. Rep. 163; 281 U. S. 179, 74 L. ed. 799, 50 Sup. Ct. Rep. 266;

*North Dakota v. Minnesota* (1923), 263 U. S. 365, 68 L. ed. 342, 44 Sup. Ct. Rep. 138.

This is a suit by the State of Washington for an injury to it in its capacity of quasi-sovereign. In that capacity the State has an interest independent of and behind the titles and private rights of its citizens, in and to the waters of the Walla Walla river stream system.

*Georgia v. Tennessee Copper Co.* (1907), 206 U. S. 230, 237, 51 L. ed. 1038, 1044, 27 Sup. Ct. Rep. 618, 11 Ann. Cas. 488;

*Kentucky v. Indiana* (1930), 281 U. S. 163, 74 L. ed. 784, 50 Sup. Ct. Rep. 275.

*2.) Past and Present Injuries Involved*

The injuries being complained of by the State of Washington in the instant action are those alleged to have been previously received and to be now continuing to be sustained. The issues arising out of the controversy between the complainant and the defendant have received full consideration by the representatives and officials of the two states, resulting in a partial settlement evidenced by stipulation No. 2 and in a limitation

of the issues involved evidenced by the other stipulations on file in the cause. The controversy has reduced itself to the remaining issues shown in the pleadings and in said stipulations, which issues cannot be reconciled at this time by voluntary convention between the states. The court is asked to settle the same.

## (II.)

### Rules of Decision Applicable Herein

#### *1.) Equitable Apportionment*

In original actions involving controversies between states over water rights on interstate streams, the United States Supreme Court appears to have established and applied the rule of equitable apportionment of the use of such waters. *Kansas v. Colorado, supra; Wyoming v. Colorado, supra; Connecticut v. Massachusetts, supra,* and *New Jersey v. New York, supra.*

In this connection, Justice Holmes states in the *New Jersey* case cited above:

"We are met at the outset by the question what rule is to be applied. It is established that a more liberal answer may be given than in a controversy between neighbors members of a single state. Connecticut v. Massachusetts, February 24, 1931 (282 U. S. 660, ante, 297, 51 S. Ct. 286). Different considerations come in when we are dealing with independent sovereigns having to regard the welfare of the whole population and when the alternative to settlement is war. In a less degree, perhaps, the same is true of the quasi sovereignties bound together in the Union. A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it. New York has the physical power to cut off all the water within its jurisdiction. But clearly the exercise of such a power to the destruction of the interest of lower states could not be tolerated. And on

the other hand equally little could New Jersey be permitted to require New York to give up its power altogether in order that the river might come down to it undiminished. Both states have real and substantial interests in the river that must be reconciled as best they may be. The different traditions and practices in different parts of the country may lead to varying results but the effort always is to secure an equitable apportionment without quibbling over formulas."

In making an application of the rule of equitable apportionment to the facts involved in a particular case, the United States Supreme Court is not limited to the rules of municipal law. Justice Butler observes in the *Connecticut* case above cited:

"For the decision of suits between states, federal, state and international law is considered and applied by this court as the exigencies of the particular case may require. The determination of the relative rights of contending states in respect of the use of streams flowing through them does not depend upon the same consideration and is not governed by the same rules of law that are applied in such states for the solution of similar questions of private right. *Kansas v. Colorado,* 185 U. S. 125, 146, 46 L. ed. 838, 22 S. Ct. 552. And, while the municipal law relating to like questions between individuals is to be taken into account, it is not to be deemed to have controlling weight. As was shown in *Kansas v. Colorado,* 206 U. S. 46, 100, 51 L. ed, 956, 975, 27 S. Ct. 655, such disputes are to be settled on the basis of equality of right. But this is not to say that there must be an equal division of the waters of an interstate stream among the states through which it flows. It means that the principles of right and equity shall be applied having regard to the 'equal level or plan on which all the states stand, in point of power and right, under our constitutional system,' and that, upon a consideration of the pertinent laws of the contending states and all other relevant facts, this court will determine what is an equitable apportionment of the use of such waters. *Wyoming v. Colorado,* 259 U. S. 419, 465, 470, 66 L. ed. 999, 1013, 1015, 42 S. Ct. 552.

"The development of what Mr. Justice Brewer, speaking for the court in *Kansas v. Colorado,* 206 U. S. 46, 98, 51 L. ed. 956, 27 S. Ct. 655, refers to as interstate common law, is indicated and its application for the ascertainment of the relative rights of states in respect of interstate waters is illustrated by *Missouri v. Illinois,* 200 U. S. 496, 50 L. ed. 572, 26 S. Ct. 268; *Kansas v. Colorado,* supra; *Wyoming v. Colorado,* 259 U. S. 419, 465, 470, 66 L. ed. 999, 1013, 1015, 42 S. Ct. 552, supra, and *Wisconsin v. Illinois,* 278 U. S. 367, 73 L. ed. 426, 49 S. Ct. 163, 281 U. S. 179, 74 L. ed. 799, 50 S. Ct. 266 * * *."

*2.) Doctrine of Appropriation*

In the *Wyoming* case above cited, the court made the doctrine of appropriation the basis of its decision of the relative rights of the States of Wyoming and Colorado to the waters of the Laramie river, the doctrine of appropriation being the foundation of private water rights in both states. Two corporations, acting under the authority and permission of the State of Colorado, were proceeding to divert the waters of the river for a right junior in time to many of the rights on the river in Wyoming, when the State of Wyoming instituted an original proceeding in the United States Supreme Court against the State of Colorado to prevent the proposed diversion. The Laramie rises in Colorado and flows down across Wyoming to the North Platte river, of which it is a tributary. The court determined the available dependable supply of the stream, calculated the priorities in Wyoming senior to the proposed Colorado diversion, fixed the water requirements of the Wyoming senior rights, deducted the aggregate amount thereof from the available dependable supply and established the amount of the supply remaining as the amount to which the Colorado appropriators were entitled for the proposed diver-

sion. Rights in Wyoming junior to the proposed Colorado diversion were not included within the injunctive provisions of the decree.

We believe that the principle of the *Wyoming* case might properly be applied in the instant case. The individual water rights involved in both states are based on the doctrine of appropriation. The injunctive provisions of the decree in the *Wyoming* case, while directed to the State of Colorado, involved the diversion for one project only. The individual rights involved in the instant case are many. The principle applicable, however, is the same in both cases. The condition of many individual rights in the instant case, does not, in our view, present any great practical difficulties either in the application of a decree based on the principles of the *Wyoming* case, to all the rights included therein measured on a constant flow basis, or in the enforcement of such a decree.

In speaking of the law applicable to the division of waters of interstate streams, the Special Master's report refers to the *New Jersey-New York*, the *Connecticut-Massachusetts*, the *Kansas-Colorado*, and the *Wyoming-Colorado* cases as applicable to the instant case. With respect to the decision in the *Wyoming- Colorado* case, it is stated (p. 49):

"The rule adopted in the *Wyoming-Colorado* case as to priorities is not one of law, but one of equity. Under the conditions existing in that case such rule was applied as the measure best adapted to work out the equities between the parties."

With reference to the decision in the *Kansas-Colorado* case, it is stated (p. 49):

"Speaking in *Kansas v. Colorado*, this court says: 'We must consider the effect of what has been done upon the conditions in the respective states and so adjust the dispute upon the basis of equality of rights as to secure as far as possible to Colorado the benefits of irrigation without depriving Kansas of the like beneficial effects of a flowing stream.' 206 U. S. 100, 109.

"In the case of *Kansas v. Colorado*, above cited, after having tabulated the growth in poulation, cultivation and production which had accrued to the State of Colorado by virtue of the use of the waters involved in the controversy, the court uses this language:

" 'Whatever has been effective in bringing about this development is certainly entitled to recognition, and should not be wantonly or unnecessarily destroyed or interfered with. That this development is largely owing to irrigation is something of which, from a consideration of the testimony there can be no reasonable doubt. It has been a prime factor in securing this result, and before, at the instance, of a sister state, this effective cause of Colorado's development is destroyed or materially interfered with, it should be clear that such sister state has not merely some technical right, but also a right with a corresponding benefit.' id. 109.

" 'It cannot be denied, in view of all the testimony (for that which we have quoted is but a sample of much more bearing upon the question), that the diminution of the flow of water in the river by the irrigation of Colorado has worked some detriment to the southwestern part of Kansas, and yet, when we compare the amount of this detriment with the great benefit which has obviously resulted to the counties in Colorado, it would seem that equality of right and equity between two states forbids any interference with the present withdrawal of water in Colorado for purposes of irrigation.' id. 113. "

The substance of the rule announced in these several decisions referred to in the Special Master's report, if we understand it correctly, is that the relation of the

states in the Union to each other under our constitutional system is one of equality of right; that this equality when applied to the relative rights of two states in an interstate stream does not necessarily mean an equal division of the waters of the stream but an equitable apportionment of the benefits of the river which the states concerned are capable of receiving from a reasonable use of the waters of the stream; that if division of the waters of the stream on an appropriation priority basis, will, in the judgment of the Court, result in an equitable apportionment of such benefits as between the states concerned, the rule of the *Wyoming-Colorado* case may be applied by this Court in original actions between the states.

The citizens and water users of the States of Oregon and Washington have for a number of years used the waters of the Walla Walla river system and have received the benefits of such use in their respective states. Out of this use and from these benefits, prosperous communities have developed. This development in the usual course began in a limited way and gradually progressed with benefit to both states until its demands for water exceeded the dependable water supply of the river system. Thereafter the supply of water for additional use became limited and an increased benefit from further additional use on one side of the state line became an increased injury on the other.

From the beginning of irrigation in this valley, there has always been a substantial supply of water coming down through the river system from Oregon for the use of irrigators in the State of Washington. The supply

of water in the spring of the year has been generous but has gradually lessened to and through the summer to a supply in the Washington section of the main stream which has been relatively small but nevertheless substantial. In more recent years the increased consumption of the supply in Oregon has reduced the flow of water from Oregon into the related area on the Washington side of the state line to a very small amount. The situation has been aggravated by a cycle of dry years culminating in the year 1926. (Ore. Abs. p. 100.) With the stream supply returning more nearly to normal, however, the former amounts of water coming through the stream system from Oregon during the spring and summer months and which was formerly available for the use of Washington irrigators has not been restored to the stream.

Washington testimony is to the effect that at least from the year 1907 to the year 1924 there was water in the main stream throughout the summer for irrigation. (Wash. Nar. T. p. 52.) The evidence is that this supply came largely through the river system from Oregon. (Wash. Nar. T. p. 61.) This testimony is corroborated by the records of the measurements of the Gardena diversions during the years 1917, 1918 and 1919, which show a continuous supply of water in the main stream at that point during the spring and summer months. (Wash. Ex. 18 pp. 13-18.) In recent years the supply in the main stream in Washington has been very limited, notwithstanding the fact that since the inauguration of stream regulation in Washington, Yellowhawk creek has been required to furnish a supply to the main stream. (Wash. Nar. T. p. 36.)

The result has been that farmers along the East Little Walla Walla river in Washington in some instances have been compelled to limit or discontinue irrigation (Wash. Nar. T. pp. 24, 28, 32) and the farmers in the Gardena project have suffered a reduction in crop yields. (Wash. Nar. T. p. 57.)

This shortage of water in the main stream in Washington during the summer months in recent years has been substantially contributed to, in our view, by increased consumption or loss of water in Oregon. It is brought about by lack of proper regulation, increased irrigation in the spring and early summer, great transportation losses, extensive use of wells and practices of this kind which reduce the hydraulic head of the stream system in Oregon and lessen the supply coming through the system into the main stream in Washington during the summer months.

This conclusion is corroborated by an examination of the records of stream measurements. In the year 1919, the summer mean supply of the stream near the forks in Oregon was 129 c.f.s. (*Supra,* Statement 3. (e).) In the summer of that year, without any contribution from Yellowhawk creek, there was continuously sufficient water in the main stream to permit an average diversion for the Gardena project of 13 c.f.s. throughout the summer (Wash. Ex. 18 pp. 17-18) while in the year 1933, with a mean summer flow in the upper river of 122 c.f.s. (Wash. Ex. 18 pp. 55 and 63), a year of substantially better water supply, there was no water in the main stream—even with the Yellowhawk creek supply added —for use of the Gardena project during the month of September. (Wash. Ex. 18 p. 12.) The same was true

in September, 1932 (Wash. Ex. 18 p. 11), however, with a lesser stream supply in Oregon (mean summer supply in upper river of 121 c.f.s.—*Supra,* Statement 3. (e)).

With a limited summer supply of water in the stream system in Washington, the irrigators in this state have had to make greater than ordinary use of the spring and early summer supply for soil storage purposes, which together with selection of appropriate crop types, enables the farmers to mature crops successfully on a very limited summer supply of water. The late spring, early summer and summer supply, such as it is, however, is of great importance and in many instances determines the difference between success or failure in crop production.

It is the benefits from the use of this supply of the river system which Washington is seeking to have equitably apportioned so far as Oregon is concerned. The State of Washington is not seeking in this action water upon which the substantial development of the Milton-Freewater area in Oregon is founded and upon which the essentials of its present prosperity now rest.

We are not impressed with the view that Oregon is entitled to a monopoly of the stream supply in that state without any obligation to the State of Washington and its citizens with respect to this interstate stream. We do not believe that a *monopoly* of the stream supply is essential to the development on the Oregon side of the state line. Somewhere in this stream supply a point is reached where the requirements of Washington and its citizens make a legitimate claim to a reasonable share of the water above that point.

It is believed that a consideration of the stream supply in its relation to the relative priorities of the rights by appropriation in each state can be given which will preserve for the State of Oregon and its water users their rights to the equitable benefits from the stream system and at the same time assure to the State of Washington and its water users a reasonable share of the late spring, early summer and summer supply of the stream. In our view, this result can be accomplished by an application of the rules announced in the *Wyoming- Colorado* case, *supra.*

(III.)

SPECIFIC ISSUES TENDERED

*1.) Priority of Gardena Farms District's Right*

(1) This right has become vested under the laws and constitutions of the United States and of the State of Washington and cannot be collaterally attacked in this suit by the State of Oregon.

By decree in the Superior Court of the State of Washington for the county of Walla Walla, in the case of *State of Washington, plaintiff, v. Charles Achermann et al., defendants,* No. 19075, the Walla Walla Irrigation Company, under Proof No. 570, was given a right from the Walla Walla river, by appropriation under a priority date of 1892, to irrigate 7,000 acres of land with a maximum amount of water of 93.333 c.f.s. from April 1st to July 1st, and 70 c.f.s. of water from July 1st to October 1st, subject to the following note:

"The claimant's 5,000 acres of land, which was the amount irrigated at the time of the hearing of the claim of said Walla Walla Irrigation Company before the ref-

eree, to-wit: on the 29th day of March, 1926, is entitled to use of water to the extent of 66.67 cu. ft. per second from April 1st to July 1st; 50 cu. ft. per second from July 1st to October 1st, and 1 cu. ft. per second for each 50 acres of land for winter irrigation; provided, that from and after said 29th day of March, 1926, the remaining lands susceptible to irrigation which may in the future be developed, shall be entitled to a quantity of water for irrigation at the rate herein allotted, as said lands may be brought into cultivation from time to time until a maximum of 7,000 acres are developed and the maximum of water herein awarded is used; and that the amount of land to which this claimant is entitled to water under the above provision shall be determined at the beginning of the spring irrigation season each year, by the State Supervisor of Hydraulics."

In the year 1928, an irrigation district was formed, known as the Gardena Farms district, which acquired the rights of the Walla Walla Irrigation Company.

Under date of April 17, 1931, a certificate of water right setting forth the substance of the rights awarded in the decree was issued to the district by the State Supervisor of Hydraulics in accordance with the provisions of Section 26 of the State Water Code (Chap. 1 of Title 48, Vol. 8, Remington's Revised Statutes of Washington, annotated, Chap. 117, Laws of Washington for 1917 and amendments.)

The decree above mentioned was rendered and entered in proceedings instituted by the State Supervisor of Hydraulics to determine the relative rights to the waters of the stream in question under the provisions of Section 14 of said Code. (See page 1 of the Report of the Referee included in Washington Exhibit 11.)

The State of Oregon challenges the priority date of the Gardena right because of an alleged lack of dili-

gence, and of an alleged change of intention, on the part of the original appropriators and their successors in interest, and contends that the several lands now irrigated from this appropriation are entitled to a priority date only as of the year in which each respective tract was first irrigated and that lands not yet irrigated are entitled to no water right. The general claim of vested rights, adverse use and estoppel made against all Washington rights applies to this right also.

The claim of vested rights, adverse use, etc., will be considered under that head later in the brief and will be disregarded here.

The State of Washington contends that the rights of the Gardena Farms district are as set forth in the Referee's report and said decree (Washington Exhibit 11) and in the certificate of water right (Exhibit A in Stipulation No. 5) and that the priority of this right under the admitted facts relating thereto is not an issue in this case.

It must be admitted that the Walla Walla river is an interstate stream; that at the time the Gardena appropriation was initiated many of the lands along the stream system above were public lands of the United States; that a large area in the upper reaches of the stream is now a part of the Umatilla National Forest Reserve (Stipulation No. 11, Jan. 14, 1934); that the right of appropriation has, at all times, been recognized and protected by the customs, laws and courts of both states; that in 1892 the predecessors in interest of the Gardena Farms district initiated a right to use the waters of the Walla Walla river for beneficial purposes;

that the court of the State of Washington and the state's administrative officials have recognized this right and have established its validity so far as the State of Washington is concerned. Under this state of facts, the right is valid and cannot be successfully challenged by the State of Oregon, in this action.

It is a well-established rule of law, that the validity of an appropriation is governed by the laws of the state where the appropriation is made. The rule is well stated in an annotation in 66 L. ed. U. S. 999 as follows:

"It is held that one who has acquired a right to water of an interstate stream by prior appropriation in accordance with the laws of the state where it is made, is protected in such right as against subsequent appropriators, although the latter withdraw the water within the limits of a different state." Citing:

*Howell v. Johnson* (1898), 89 Fed. 556;
*Hoge v. Eaton* (1905), 135 Fed. 411;
*Anderson v. Bassman* (1905), 140 Fed. 14;
*Rickey Land & Cattle Co. v. Miller & Lux* (1907), 152 Fed. 11, affirmed in 54 L. ed. 1032, 218 U. S. 1032;
*Morris v. Bean* (1906), 146 Fed. 423, affirmed (1908) 159 Fed. 651, affirmed in (1911) 221 U. S. 485, 55 L. ed. 821, 31 Sup. Ct. Rep. 703;
*Conant v. Deep Creek & C. Valley Irr. Co.* (1901), 23 Utah 627, 90 Am. St. R. 721, 66 Pac. 188.

See Kinney on Irrigation & Water Rights (2nd Ed.) Vol. 3, Sec. 1227, page 2222, where the rule is stated and discussed with sustaining citations.

Moreover, a water right by appropriation so acquired, and recognized by the state where the appropriation is made, is valid and enforceable under the constitution and laws of the United States.

The acts of Congress of July 26, 1866, and of July 9, 1870, combined in Section 661, Title 43, U. S. C. A., is as follows:

"Section 661. *Appropriation of waters on public lands; right of way for canals and ditches.* Whenever, by priority of possession, rights to the use of water for mining, agricultural, manufacturing, or other purposes, have vested and accrued, and the same are recognized and acknowledged by the local customs, laws, and the decisions of courts, the possessors and owners of such vested rights shall be maintained and protected in the same; and the right of way for the construction of ditches and canals for the purposes herein specified is acknowledged and confirmed; but whenever any person, in the construction of any ditch or canal, injures or damages the possession of any settler on the public domain, the party committing such injury or damage shall be liable to the party injured for such injury or damage.

"All patents granted, or preemption or homesteads allowed, shall be subject to any vested and accrued water rights, or rights to ditches and reservoirs used in connection with such water rights, as may have been acquired under or recognized by this section. (R. S., Secs. 2339, 2340.)"

In applying the Federal statute above quoted to the rights of lower appropriators in Wyoming as against upper appropriators in Montana on an interstate stream flowing from Montana into Wyoming, the court in the case of *Howell v. Johnson et al.* (1898), 89 Fed. 556, held that the rights of the lower appropriators in Wyoming did not rest upon the laws of Wyoming but upon the laws of Congress.

See

*Hoge et al. v. Eaton et al.* (1905), 136 Fed. 411;
*Weiland v. Pioneer Irr. Co.* (1921), 259 U. S. 498, 66 L. ed. 1027.

In Stipulation No. 6, which defined the issues be-

tween the two states with respect to the Gardena right, the State of Washington challenged the legal sufficiency of each of the grounds of contest of this right by Oregon, as constituting a defense or as sustaining any rights of the State of Oregon in this action. (Stipulation No. 6, Par. V.)

At the time evidence was submitted by Oregon before the Special Master against the Gardena right, the State of Washington objected to the introduction of such evidence as not material or relevant to the issues involved herein, for the reasons hereinabove set out, which reasons were at that time specified to the Special Master. The objection was noted and the evidence received by the Special Master subject to the objection. (Wash. Nar. T. p. 258.)

While the Special Master does not specifically rule on the objection in his report, he cites a number of cases supporting the conclusion that "no state can legislate for or impose its own policy upon another state nor can the decrees entered in one state have any binding effect upon persons who were not parties thereto." (Sp. M. R. p. 50.)

It was conceded that Oregon and its citizens were not parties to the Washington suit in which the decree adjudicating the Gardena right was entered. The right, however, had vested and accrued and had been recognized and acknowledged by the local customs, laws and the decision of court and it appeared to us that the same was protected by the Acts of Congress of July 26, 1866, and of July 9, 1870, above mentioned.

(2) The record herein affirmatively establishes the

validity of the appropriation of the Gardena Farms district.

The State of Oregon questions the reasonable diligence with which the Gardena appropriation has been consummated and contends that the doctrine of relation does not apply to the extent of entitling the right to a priority date of 1892.

It should be noted at the outset that reasonable diligence is a relative term. As stated in Kinney on Irrigation & Water Rights (2nd Ed.), Vol. 2, Sec. 735, page 1269:

"As has been said, the law does not require any unusual or extraordinary efforts, but it does require that which is usual, ordinary, and reasonable. The diligence required in the prosecution of the construction of all works necessary for the diversion and application of water in an attempted appropriation of the same is that constancy or steadfastness of purpose or labor which is usual with men engaged in like enterprises, and who desire a speedy accomplishment of their designs. There must be such assiduity in the prosecution of the works as will manifest to the whole a *bona fide* intention to complete it within a reasonable time. As to what constitutes diligence is a question of fact and must be determined from all the circumstances surrounding each particular case."

The doctrine of appropriation in the western states grew up largely in the use of water for mining purposes. In the case of mining operations, the amount of water necessary for the objects of the appropriation was fully provided for from the beginning. The use of water for irrigation, however, introduced a new feature in the doctrine because of the practical condition in such cases that the appropriation is made largely for future needs. These needs must be anticipated in a measure and pro-

vided for in advance by the construction of ample works. This transfers a heavy financial burden upon the appropriator in many instances from a point where the financial returns of the enterprise are available to a point in advance of these returns and enters into the time consumed in consummating the appropriation. The rate of progress with which the appropriation is consummated for irrigation purposes, therefore, depends upon many things which were unknown to the miners when they originated and developed the doctrine of appropriation.

In determining reasonable diligence, the courts take into consideration, among other things, the objects and purposes of the appropriation; the climate and topography of the country where the appropriation is made and where the works are to be or have been constructed; the water available and the present and future demands for the products resulting from the appropriation; the general financial conditions of the times in which the appropriation is being or has been consummated and the magnitude of the works themselves. Where the amount of the appropriation is obvious and there is manifested a constant purpose to consummate the same accompanied with continued efforts and expenditures of money in its behalf, consistent with the magnitude of the project and with the public demand for the products of its accomplishment, it may generally be said that reasonable diligence in the prosecution of the appropriation has been shown.

The supreme court of the State of Washington, in dealing with this question in connection with a farm appropriation, applies what it terms the rule of common sense. In the case of *In re Alpowa Creek* (1924), 129

Wash. 9, 224 Pac. 29, arising under determination proceedings of the Water Code, the court observed (14):

"As to what may be considered reasonable diligence in putting appropriated waters to a beneficial use must depend to a large extent upon circumstances. The lands in question are sparsely settled and located far from any trade centers. The creek is small and its water insufficient for all purposes. The country in the vicinity has, because of its character and remoteness from civilization, developed very slowly. Yet, under all of these adverse conditions, some irrigation has been carried on from an early date by means of the Houser ditch, and the amount of that irrigation has gradually but surely increased. A part of the waters have at all times been used for other beneficial purposes, such as milling and mining. The law does not require an immediate use. The doctrine of common sense applies. In making the appropriation intention is an important factor. All the appropriated water need not be at once used. Reasonable diligence in making a beneficial use is all that is required.

" 'Appropriation of water consists in the intention, accompanied by reasonable diligence, to use the water for the purposes originally contemplated at the time of its diversion.' *Offield v. Ish*, 21 Wash. 227, 57 Pac. 809."

The rule of common sense applied to the Gardena appropriation should, it is believed, resolve the question of diligence in favor of the appropriators. The object of irrigating several thousand acres of sage brush lands 25 miles distant from the point of diversion was an unusual one in that day. The transportation of large volumes of water over long distances for irrigation purposes was not common at that time. The great development of irrigation projects has taken place since. The National Reclamation Act was not passed until 1902. U. S. C. A., Title 43, Sec. 391, page 305. The first comprehensive state water codes were not adopted until 1903 and later. Wiel, Water Rights in the Western States

(2nd Ed.), Sec. 25. The Gardena project was a pioneering conception involving many unknown factors. As shown in the agreed statement of facts (Stipulation No. 5), the canal was 16 feet wide on the bottom from the diversion point for a distance of several miles. Fills had to be made over physical depressions. Cuts were made through the hills. Two were 26 feet deep at the deepest points, one about 1500 feet in length, the other about 1000 feet in length. There were breaks and slides. This was a gravity canal. An idea of the contour of the country through which it passed may be gathered from an examination of the canal's course on the official map, Washington Exhibit 17,—it was a rolling country of light and ashy soil. All this excavation and soil filling work was done by teams and scrapers furnished largely through the efforts of one man. The progress of this work exended through the great national financial crisis of 1893 and the demands for lands and water and the general income therefrom were influenced by these conditions. Actual construction was begun in August, 1892, and continued in varying degrees from year to year until 1905, when the canal was completed to the project. While the records of the company in the name of which the work was carried on are not complete, such records as are available show a continued expenditure of money every year for construction purposes from the year 1897 to the date of completion of the canal in 1905 to the extent of nearly a hundred thousand dollars. There has been a progressive improvement of the canal and of the distribution facilities of the project since that time until today the district has a fully equipped up-to-date system. (W. Brief Nar. T. pp. 52, 62.) Under these cir-

cumstances, we believe that the superior court of the State of Washington and the State Hydraulic Engineer, as its referee, in the case of *State v. Achermann et al.*, were fully justified in finding, as presumably they did in sustaining this appropriation, that the same was prosecuted with reasonable diligence.

The Special Master's report deals with the question of diligence under the State of Washington in force at the time the Gardena right was initiated. (Sp. M. R. p. 67.) The right of appropriation irrespective of the statute has heretofore been considered under the Review of Complainant's Exceptions (I), (5) and such consideration will not here be repeated.

The State of Oregon further alleges in stipulation No. 6 that the original intention of the appropriators was to irrigate only such lands in the Gardena territory as might be irrigated by a gravity canal, without any siphons, running into Oregon substantially along the course of the so-called original survey shown on Oregon Exhibit 35; that in 1904 the appropriator changed the original intention and began the construction of a shorter canal with siphon across Pine creek valley direct to the territory to be reclaimed and made possible the irrigation of about 1,800 acres in addition to that contemplated in the original plan (Oregon Exhibit 39 tabulates the acreage as 1,675.6); and that the priority date of the rights for these additional lands should not be earlier than the year 1904.

The substance of the position of the State of Oregon with respect to "intention" is that a change in the means by which the initiated appropriation was to be

accomplished constitutes a change of the intention to appropriate the water. This is not necessarily the case.

The general rule in this connection is stated in Wiel, Water Rights in the Western States (2nd Ed.), Section 177, page 280, as follows:

"Sec. 177. *The Right is Independent of the Mode of Enjoyment.*—By appropriating a stream the law has always considered that a right of property was conferred, and being property, the owner may enjoy it as he will, so long as he does no injury to others, just as he may a farm or a horse or other property. The law, hence, has always regarded the right as independent of means or place or purpose of use or of point of diversion. * * *"

Again the same authority states (Sec. 179, page 285):

"Sec. 179. *Change of Means of Use.*—It has been said that the appropriator may use the water in any manner necessary to carry out the use for which it was appropriated. In all branches of the law of waters it is immaterial whether the use is in steam boilers, by hydraulic rams, in flumes or pipes, or appliances of whatever kind. The means of use may be changed so long as no one is injured in making the change. That is, the priority is not lost; and whether the change can be made rests on whether the acts done in making it would be lawful under the general law, if done in any other connection."

Kinney on Irrigation and Water Rights (2nd Ed.), Vol. 2, Sec. 825, page 1449, makes the following statement regarding the rule:

"All that is necessary to make a valid appropriation is that there be an actual diversion of the water from the natural channel or other source of supply, with an intent to apply it to some beneficial use, followed by an actual application of the water either to the use designed or to some other within a reasonable time, and

any lawful means toward attaining that end may be used."

In the instant case the Gardena canal with a capacity of 150 c.f.s. for considerable length was constructed. It was constructed that size from the beginning in 1892 (Stipulation No. 5). Assuming transportation loss in the canal of 12.7%, the amount of loss now sustained in the canal (W. Brief Nar. T. p. 237), the canal would have a capacity to deliver 131 c.f.s. of water—sufficient to irrigate 13,000 acres of land at the duty of water judicially established for irrigation in Washington. The notices of appropriation state that the lands to be irrigated by the appropriation are situated in the locality of the lands now irrigated by the canal (Stipulation No. 5, Exhibits "B," "C," and "D"). The record shows conciusively that it was the intention of the original appropriators and of their successors in interest to divert 150 c.f.s. of the waters of the Walla Walla river at the diversion point used, for the irrigation of lands in the locality of the present Gardena project. That intention has never been changed, modified or abandoned. Every survey made, every piece of construction work done was made or done with that object in view. Whether that object was accomplished by hand labor, horse power or mechanical contrivances of various kinds, whether by a canal constructed around the hills or through them, whether by a canal partly or all earthen, wooden flumed or siphonal, whether by ownership of the lands themselves or by sale of water to others, whether by delivery of water to some of these lands or to other of these lands, to part of the same or to all of them—these things, it appears to us, are incidental and not controlling matters

bearing on the validity of the Gardena appropriation or its priority. The referee and the court presumably so concluded, in the Walla Walla river adjudication case in the Superior Court of the State of Washington.

In the Special Master's report it is concluded that if the predecessors in interest of the Gardena Farms district ever had any intention to appropriate water of the Walla Walla river arising above the Red bridge, such intention was abandoned before the commencement of this action. (Sp. M. R. pp. 114-115.) We have herein before endeavored to show that such waters have been used each year by this project under the title, Review of Exceptions (I), 2., (9) and we shall not repeat the discussion here.

It is submitted that the appropriation of the Gardena Farms district and its priority as set forth in Washington's Exhibit 11, p. 69, should be accepted in this suit as a valid and vested water right.

### 2.) Water Requirements

#### *(1) Differences in Aggregate Water Use Between the Two States*

The aggregate amounts of water diverted from the Walla Walla river system to satisfy consumptive rights under the general decree in Oregon (Washington Exhibit 1) including uses on all classes of soils, during the summer season of 1933, averaged 1 c.f.s. for each unit of 26 acres. (Wash. Nar. T. p. 102.) The amount of water diverted to satisfy the consumptive rights under the general decree in Washington (Washington Exhibit 11) including use on all classes of soils, during the same year, averaged 1 c.f.s. for each unit of 95 acres. (Wash.

Nar. T. p. 100.) This difference in the general average water requirement for the related lands in the two states for the year 1933, while slightly varying possibly in degree in different years, is typical of the difference in amounts of water distribution in the related area in the respective states.

It should be noted, however, that the area in Oregon including the lands between the fan and the state line, the Milton-Freewater fan and the lands along the upper river, involves soil approximately 66⅔% low water duty, while in Washington the area including upper Mill creek, the Mill creek fan and the lands in the related area below Mill creek, not including Gardena, involves soil roughly 20% low water duty.

In recent years the available supply of water in the stream system in Washington during the summer season has generally been insufficient to satisfy priorities up to 1892 (Wash. Ex. 27), while in Oregon in the year 1933, priorities up to and including 1909, with the exception of the Milton-Freewater Hudson Bay Company right, generally had water and in addition waste and stream ground waters were generously used during the summer season in that territory. (Wash. Nar. T. p. 102.)

*(2) Differences in Regulation of Water Use Between the Two States*

In the State of Oregon, water is often first diverted from the main stream in old river channels to the private ditches, and in many instances measurements are made at considerable distances from the main stream. (Wash. Nar. T. p. 15.) The right of Oregon diverters

to transport water through natural channels is not questioned but in determining the relative rights of the two states in and to the waters of the stream system, the upper diverters in deference to the rights below should be accountable to the main stream for a reasonable amount of the losses resulting to it from this general method of diversion.

The natural channels in the State of Washington from which diversions are made are living streams and excess waters therein run unobstructedly down the stream for the use of lower diverters. In the State of Oregon, excess waters diverted from the main stream through high water or old river channels, are generally not returned to the main stream, but are used excessively by the respective diverters on the channels or are allowed to waste for the use of those having no stream rights whatsoever—a result again detrimental to the water supply of the main stream for the rightful use of lower diverters thereon.

Measuring weirs are in use over the entire system in the State of Washington (Washington Exhibit 11); divisional or proportional weirs are the typical form over the system in the State of Oregon. (Ore. Abs. p. 54.) Under the operation of these respective types of measuring devices, excess waters remain in the natural streams for lower users in Washington but are diverted proportionally therefrom by the water users in the State of Oregon. Thus again, the Oregon method of measurement tends to injure the water supply of the natural stream system.

In the State of Washington, all diversions on the stream system are under regulation in the summer sea-

son. (Wash. Nar. T. p. 36.) Diversions for 536.45 acres of land above the West's bridge on the main stream in Oregon, diverting at the estimated average diversion duty of one second-foot for 19 acres (Wash. Ex. 30, Table IV), are without practical regulation during the summer season. (Wash. Nar. T. p. 219, Oregon Ex. 45.) Waste water in some instances and water pumped from wells in all instances, in the related area in Oregon, are also without regulation. The limitation of regulation in Oregon tends to decrease the available stream supply for lower users in Washington at the season of the year when the demands on the stream are most critical.

### *(3) Farm Practices*

The Oregon farmers divert through earthen ditches and distribute the water over the land, without any water saving devices other than such care as is taken of the ditches. (Wash. Nar. T. p. 160.) There appear to be no check gates in these ditches and in some of them where the fall is excessive, the banks are undercut. (Wash. Nar. T. p. 188.) No devices to control the head of water entering the irrigation furrows are in use other than temporary earth fills put in with the shovel at each irrigation. The irrigation runs are comparatively long, not less than 18 to 20 rods. (Wash. Nar. T. p. 211.) In some instances they are 600 feet long. (Wash. Nar. T. p. 165.) In some instances they are approximately 660 feet long but irrigated in two sections of about equal length, by means of a cross pick-up ditch. The furrows in the upper half are used first in groups of 8 or 10 and the tail water therefrom running in the pick-up ditch is

used in the furrows in groups of 3 to 5 in the lower half of the tract. (Wash. Nar. T. p. 211.) This plan in reality utilizes 8 to 10 delivery ditches to water the lower groups of furrows. The furrows are generally about 3 feet apart except in the orchards where the center furrow between the tree rows is sometimes omitted. (Wash. Nar. T. p. 213.) The irrigation furrows in some instances are made with an ordinary mole-board plow, rather than a shovel plow. (Wash. Nar. T. p. 194.) Cover crops are frequently grown in the orchards. (Wash. Nar. T. p. 244.) The furrows apparently are not cultivated between irrigations in connection with root crops. (Wash. Nar. T. p. 195.)

In sections in Oregon where rotation is practiced, irrigation frequency is about once a week for the orchard crops and every third day for tomato crops. (Wash. Nar T. p. 240.) Water use is rotated on orchard lands in groups including as high as 50 to 60 acres; and on tomato lands in groups of about 20 acres. (Wash. Nar. T. p. 222.)

### *(4) Farm Requirements*

On the fan in the Milton-Freewater territory, the soil is underlaid with gravel 8 to 10 feet in depth resting upon which is locally termed cement gravel (Wash Nar. T. p. 210) which runs down to bedrock lying some three hundred or four hundred feet beneath the surface. (Wash. Nar. T. p. 226.) The upper three feet of the soil is gravel and boulders with fine soil between, the top 18 inches to two feet being filled with fairly heavy soil. (Wash. Nar. T. p. 184.) The fan was hydraulically made and is composed of rock and silt brought down by the

river. There is no sand on the watershed. The finer particles washed down on the fan are composed of a loam or clay nature. (Wash. Nar. T. p. 14.) The upper 18 inches to 2 feet of the soil on the fan is reasonably fertile, subs well and is not exceedingly porous. (Wash. Nar. T. p. 187.)

In Oregon the farmers above the West's Bridge on the main stream use such amounts of water as their respective conveniences may dictate, and is of the average diversion duty, as we have heretofore stated, of 1 c.f.s. for 19 acres, involving roughly 500 acres of land with priorities of 1892 and earlier; the farmers along the East Prong and Spring Branches have the use of such water as is available up to 1½ miner's inches (.0375 c.f.s.) per acre (Wash. Ex. 1), involving roughly 500 acres of land with 1892 and earlier priorities; the farmers on the fan in the Milton-Freewater territory have the use of 1½ miner's inches (.0375 c.f.s.) per acre (Wash. Ex. 1), involving roughly 1500 acres of land with priorities of 1892 and earlier; the farmers on the West Prong have the use of a general average of approximately 1 miner's inch (.025 c.f.s.) per acre. The decree (Wash. Ex. 9) awards specific amounts for each tract of land on the West Prong varying from ½ to 1¼ miner's inches per acre; the acreage with 1893 and earlier priorities is roughly 545. (Stipulation No. 3, Nov. 10, 1933.)

The testimony of some of the Oregon witnesses was to the effect that 1½ miner's inches (.0375 c.f.s.) per acre is not required for the lands along the said East Prong and Spring branches. (Wash. Nar. T. p. 247.) The soil of most of the land in this territory requires less water

than on the fan above. (Wash. Nar. T. p. 245, Wash. Ex. 15.)

The acreage along the West Prong in Oregon with priorities of 1892 and earlier is relatively small. The aggregate of the differences between the water requirements fixed in the decree (Wash. Ex. 9) and that contended for by Washington is relatively smaller. For comparison of the relative amounts of use of water in the two states, therefore, the State of Washington, accepts the duty of water fixed in said Washington Exhibit 9.

The amounts of water used on the fan in the Milton-Freewater territory and on the lands along the stream above, we believe to be larger than necessary. The Oregon farmers concerned are interested parties and their testimony should be considered in that light. As stated by Mr. Johnston, witness for the State of Washington (Wash. Nar. T. p. 194):

"As I said a short time ago, a farmer will usually not adopt better methods as long as he has an unlimited water supply. He will substitute the extra water for other improvement which might be more profitable."

The testimony of the Oregon farmer witnesses was in substance that they were using about 1½ miner's inches of water and could use more. There was no testimony to the effect that any great efforts had been made to get along successfully with less water. The testimony with respect to the use of well water was to the effect that it is used in some instances to get a larger head of water (Wash. Nar. T. p. 213); well water is also used to supplement stream rights of later priority.

The testimony of the expert witnesses agreed substantially as to the character of the soil on the fan. There was also a substantial agreement as to the moisture retained in the upper three feet of the soil after an irrigation. There was a difference of opinion as to the amount of water required for each irrigation to supply the moisture capacity of the soil, Mr. Larson, for Washington, testifying that 4 acre-inches were sufficient, and Dr. Powers, for Oregon, that 5 acre-inches were required. (Wash. Nar. T. pp. 168, 239.) Dr. Powers' opinion, however, appears to have been based on the assumption that no moisture was carried over in the soil from one irrigation to another. There was also a difference of opinion among the experts as to the frequency of irrigation necessary, Mr. Larson, for Washington, testifying that a frequency of 8 to 10 days is sufficient, and Dr. Powers, for Oregon, that once a week is required for orchards and twice a week for tomatoes. (Wash. Nar. T. pp. 169, 240.) The experts agreed that there was danger of loss of water during irrigation from deep percolation. The opinion of the Washington experts was that excessive loss from deep percolation might be prevented by careful irrigation practice (Wash. Nar. T. pp. 168, 199) while the Oregon experts were of the opinion that great loss from this cause would result in any event (Wash. Nar. T. pp. 239, 244.) It appears to us that the Oregon experts did not give full attention to the character of the soil in the root zone.

It is believed that the record does not show the care on the part of Oregon water users that might properly be exercised to prevent waste of water. If we assume a rotating group of 50 acres for orchards, with 1½

miner's inches per acre, the owner of a 10-acre orchard would have an irrigating head of 75 miner's inches less whatever the ditch transportation loss might be. If this loss were 20%, the irrigator would have an irrigating head of 60 miner's inches. If this head of water were applied in group rills approximating 1/15th of the tract irrigated, in accordance with the practice of Elba Rogers as a typical example (Wash. Nar. T. p. 210), the irrigating head for the 10-acre tract would be at the rate of 90 miner's inches an acre. One and one-half miner's inches of water per acre applied in the same manner with the same allowance for ditch loss, on a 4-acre tomato tract in a rotating group of 20 acres would give an irrigating head applicable at the same rate of 90 miner's inches an acre. The use of this head of water in the manner disclosed by the record results in excessive losses.

*(5) Findings in Special Master's Report on Water Requirements*

The Special Master's report finds that (pp. 113-114):

"The use of water by the Irrigators within the State of Oregon is not unduly wasteful but is, under the circumstances, a reasonable, beneficial and necessary use."

"The users within the State of Oregon have not diverted or used water in excess of their necessities or in excess of the amounts decreed to them under the Oregon decrees."

As we have heretofore endeavored to point out, we believe that the State of Washington and its citizens, are making a more careful use generally of the waters of the stream system than Oregon and its citizens, not only in the matter of individual apportionment but also in the matter of the methods of transportation and distri-

bution of water. The complainant has excepted to these findings in the report and submits that the record herein warrants a fuller consideration of the higher use of water in Washington in determining the equities of the two states in their relative rights to the use of the waters of the stream than that given it in the report.

### .3.) Wells

#### *(1) Injure Surface Stream Supply*

About 9000 acre-feet of water for irrigation is pumped from approximately 300 wells in Oregon during the irrigation season. (Wash. Nar. T. p. 123.) As heretofore pointed out, this draft of water during July and August in the year 1932 amounted to 45 c.f.s. or nearly a third of the average summer river channel supply in that area in Oregon. These wells tap the underground water supplying the river system in Oregon and the main stream below during the low water period. (Wash. Nar. T. p. 235.) A large number of these wells are located on the Milton-Freewater fan in the related area. The use of these wells for irrigation is a use of the water of the stream system and to an appreciable extent reduces its supply.

Mr. Piper, who made a study of ground water in this area at the request of both states, testified in substance, with respect to the general character of the water table in this area, that the ground water coming from the canyon at the apex of the Milton-Freewater fan is retarded by the fan and first travels radially outward through the fan (Ore. Abs. p. 70) but the remnants of the old formations of more or less impervious materials projecting from the westward and from the northwest-

ward, tend to restrict the flow of ground water to the west (Wash. Nar. T. pp. 229-230), and deflect it toward the north so that the direction of the natural flow of the ground water under the fan is generally along with and toward the river to the north. (Wash. Ex. 16, Plate 5.)

The depth of the water table from the surface of the fan grows progressively deeper during the summer (Wash. Ex. 16, p. 78) and the gradient is generally steep toward the north varying from but corresponding somewhat with the surface gradient of 60 feet to the mile. (Wash. Nar. T. p. 231, Wash. Ex. 16—Figure 4, p. 67.)

Changes in the level of the water table are often independent of the use of the wells. (Ore. Abs. pp. 71-72.) But the pumping from these wells for irrigation is a large item in the disposal of ground water (Wash. Ex. 16, p. 96) and does have some effect on the level of the ground water table. (Wash. Ex. 16, p. 65, Ore. Abs. p. 73.)

The natural destination of the ground water is the river to the north. However, the use of the wells lifts the water from its natural underground course and spreads it upon the surface where the part that is not consumed tends to follow the surface drainage slope to the westward away from the main stream directly to the northeast and north and returns it below the principal Washington diversions on the main stream.

Mr. Piper testified in part on this point:

"It is my judgment from that, therefore, that the general pattern of ground water circulation is a natural one, modified partly, perhaps, by irrigation water and by pumping, but not to a major extent. Our data does not permit saying to what extent." (Wash. Nar. T. p. 234, Sp. M. Original Transcript of Tes. Vol. 6, p. 798;

we do not find support in the record for statement in Ore. Abs. p. 75 "we cannot conclude that the pumping distributes the water further to the west" and assume it is an error.)

The result of pumping for irrigation in this area is that the Washington diverters are deprived of a substantial portion of the summer stream supply. With the gradual increase in the number of these wells, the effect has become definitely apparent in recent years.

Formerly, as heretofore pointed out, the summer supply of water in the main stream and in the East Little Walla Walla river was greater than at the present. Part of this diminution of supply, in our view, is due to the use of wells. In recent years, the supply of water in the streams to the west of the fan crossing into Washington has become noticeably greater. The Washington water master, speaking of Oregon tributaries entering the main stream in Washington, testified (Wash. Nar. T. p. 39):

"There has been a tendency for the supply of water in the streams and distributaries to the east to be less during the summer while those to the west down in the Pine Creek (region) have had a greater supply."

The reasonable inference to be drawn from this condition, in our view, is that the increased supply of water in these more westerly tributaries is due in part at least to the lifting of the ground water to the surface where a substantial portion of it follows the surface drainage toward the west and northwest.

It is our view that the owners of these wells in this locality are in reality diverting the stream supply for which an account should be taken in determining the equities of the two states in the stream system involved.

*(2) Rule Undecided by Courts in the Two States*

There has been no court decision in either the State of Oregon or the State of Washington directly applicable to this situation. There are court decisions in the two states relative to fugitive percolating waters having an unknown destination. These decisions have no application to this situation. The ground water admittedly comes from the stream system through the narrow gap above and is traveling through the Milton-Freewater territory toward a definite destination on its way to the stream system below. It is not fugitive percolating water headed for unknown destinations. It came from the stream. It is traveling temporarily along with and toward the stream and eventually reaches it again. It constitutes a substantial part of the surface stream supply and is simply an incident thereto.

The only case in the State of Washington having any bearing on the question involved here, which we have found, is that of *Meyer v. Tacoma Light and Water Company* (1894), 8 Wash. 144, 35 Pac. 601. The suit was instituted by riparian owners operating a mill at the outlet of a lake which was part of a non-navigable stream. The stream above and flowing into the lake was known as Clover creek, which flowed water on the surface only during the high water period. The whole watershed of the stream had an underlying impervious stratum covered by a deposit of gravel of varying depth. The trend of this impervious stratum from each side of the stream was in general towards the bed thereof. The ground water in the valley of the stream was not in any way confined except by the confines of the valley itself and there was no evidence except by inference that the

ground water reached the lake or contributed to the supply of the stream at the outlet of the lake during the low water period. The defendant power company, a non-riparian user, diverted the water of Clover creek and the plaintiffs, mill owners, sought to obtain damages resulting from the diversion of the power company on the theory that the whole watershed should be considered the bed of the stream and that they (the plaintiffs) as riparian owners were entitled to the undiminished flow thereof in accordance with the common law doctrine of riparian rights. The court on appeal held that the plaintiffs failed to show that they had sustained any damage by reason of the diversion and remanded the cause to the lower court for dismissal.

While the decision in the *Meyer* case is an authority on the question of damages only, the court made some observations in the opinion which are of interest in connection with the wells in the instant case. The court observes (147):

"That which has given rise to difficulty and much diversity among the authorities is as to the application of the rule. Some of the courts have held that the flow can only be protected when in a solid body like a stream on the surface, while others have applied the rule with greater liberality, and have afforded protection to the lower riparian proprietor when the underground stream was not so well defined. But so far as we have been able to discover, none of the cases have gone so far as to hold that he would be thus protected as to water which was percolating through sand or gravel within limits not at all defined by anything appearing upon the surface or made to appear by investigation beneath the surface. Counsel for plaintiffs insist that the proofs were sufficient to authorize a finding that the water in question was so flowing as to be entitled to protection.

"The proof in regard thereto established this state of facts: That the whole valley or watershed of the stream

had an underlying impervious stratum; that such stratum was covered by a deposit of gravel of varying depth; that the trend of this impervious stratum from each side of the stream was in general towards the bed thereof. Upon these facts plaintiffs contend that this whole watershed should be considered as the bed of the stream, and that since the water which, higher up the stream, was flowing upon the surface could not get below this impervious stratum, it must, when under the surface, continue to form a stream within defined limits. There is nothing in the proofs in any manner tending to show that the water was confined to a space immediately below or near the actual bed of the stream upon the surface of the ground, hence the contention of plaintiffs can only be sustained by holding that the entire valley through which it flowed constituted the bed of the stream. No case has been cited that would justify such a ruling.

"It has never been held that a flow of water percolating through the sand and gravel of the hillsides which lead down to the bed of the stream will be protected on account of the fact that such waters are confined to the valley to which such hillsides descend, and of which they form a part, by some underlying stratum below which the waters cannot go. If it had been shown by the proofs that the water all remained upon the surface until it arrived at a defined point, and then all disappeared, the conclusion might follow that it still retained its position as a stream confined to a point substantially identical with the bed upon the surface. But no such fact was in any manner made to appear. There was nothing to warrant any other conclusion than that the water spread itself through the gravel under and on each side of the stream, with no other boundaries than the underlying stratum of which we have spoken. There is nothing to at all indicate where or how within such boundaries the flow is continued. It may have appeared by inference that the waters, or a portion of them, eventually reached the lake, but there was nothing to show that they so reached the lake in any other manner than by percolation through the entire gravel bed of the valley of the stream."

In the observations quoted, the Court distinguishes between percolating waters unconfined and those re-

stricted to an area contributing to the surface stream supply above the place of use where the injury is alleged to have arisen. While this case is interesting in showing the mental attitude of the members of the Court, the decision has no controlling weight on the question involved in the instant case.

The recent case of *Evans v. Seattle*, (July, 1935) 82 Wash. Adv. Dec. p. 382, 47 P. 2nd 984, deals with percolating waters gathering in a natural sump where no natural stream is involved and is not applicable to the situation here.

The status of the decisions of the Oregon Court on ground water is equally unsettled. We have found no case in point in that jurisdiction. The case of *Hayes v. Adams*, (1923) 109 Ore. 51, 218 Pac. 933, in dealing with percolating waters supporting a spring, announces the rule that the user of the spring is entitled to protection of the percolation. The spring was located near the mouth of a deep canyon containing many wet, boggy places with rushes and other vegetation growing along the bank. The defendants tapped the percolating water some 400 feet above the spring on their own land by means of a pipe line and deprived the spring of its flow. The owners of the spring sought to enjoin the defendants from tapping the percolating waters and the defense was that the course of these waters was unknown and therefore they were part of the land and belonged to the owners thereof. The Court held that these ground waters were part of a water course, the existence and location of which were known or reasonably ascertainable, from the surface without excavation. The decision

in this case is not controlling in connection with the wells in the instant case but is interesting in that it announces the rule that percolating waters confined within the limits there existing contributing to the stream supply, and ascertainable by the existence of vegetation on the surface, are a part of the stream.

The State of Oregon passed an act in 1927 authorizing the appropriation of all underground waters in Eastern Oregon, lying east of the summit of the Cascade Mountains. Appropriations were recorded in substantially the same manner as appropriations of surface water under the Oregon water code. The statute saved existing rights in ground water. (Gen. Laws of Ore. 1927, chap. 410.) An amendment to this law in 1933 limits appropriations to underground streams, channels, artesian basins, reservoirs or lakes, the boundaries of which may reasonably be ascertained (Gen. Laws of Ore. 1933, chap. 263).

The boundaries of the ground water flow along the Walla Walla River and beneath the surface of the Milton-Freewater fair are reasonably ascertainable. It is doubtful, however, if such water comes within the statute. But, in any event, diverters from the surface streams are, in our view, entitled to have the ground waters directly supporting the stream supply protected in times of water scarcity.

*(3) Apparent Conflict of Authority in Other States*

There is an extensive annotation on percolating waters in Volume 55, A. L. R., beginning at page 1385. We shall make no attempt to analyze the digests of the

decisions there contained. While there is an apparent conflict in the decisions of the courts of the various states on the question, there is not so great a conflict on the principle involved. The conflict arises in the differences in facts and in the manner of proof submitted. Where the facts exist and are properly proved that the percolating waters are a substantial source of the surface stream supply, and the use of the percolating water complained of taps that supply, the courts generally seek to protect the surface stream supply.

The tendency of the earlier cases to avoid granting definite relief arises in many instances out of the indefiniteness of the proof submitted. The situation is well stated in Wiel, Water Rights in the Western States (2nd Ed.), Section 356, page 541:

"A third class of underground water similar to the sub-flow, but distinguishable from it, consists of percolations tributary to a watercourse instead of resting beneath it. While the sub-flow is a component of the stream resting beneath the bed, the tributary percolations form a component though they have not yet reached the actual channel.

"On the surface a stream is traced back so far as proof shows approaching water to be tributary, such approaching water being a component part of the watercourse. The watercourse extends back into lakes, creeks, springs that are its surface source or tributaries. Further back than that the state of geological knowledge did not, until comparatively recent years, furnish proof; and consequently the law, which can never advance beyond the proof, stopped also. The spring or other surface source was regarded as the vanishing point of the watercourse, and the percolations underground were an unknown quantity, too precarious in their movements in the then state of knowledge of the subject to be taken into consideration, and such percolations were treated under the rule of ownership of the soil in which they were found, as later set forth. The leading cases were

*Acton v. Blundell* and *Chasemore v. Richards*, in the former percolations tributary to springs, in the latter percolations tributary to the River Wandle. Such, also, were most of the earlier California cases dealing with percolating water. In all these cases the percolations were treated as a separate matter from the spring or watercourse and subject to a different rule of ownership.

"But more recent scientific investigation has dispelled most of this mystery concerning the movement of underground water. It is demonstrated fairly well now that there is an underground circulation near the surface (technically, the 'Vadose' circulation), beginning with rainwaters on the summit of a watershed and substantially making its way underground to lower levels until it finally reaches the sea, finding its way by percolation to a large extent into the channels of some watercourse in this downward travel. Taken too literally, this would make all percolations tributary to watercourses, but for the purpose of any individual case that inference is too remote, and the question is instead one of proximateness on the proof. If, on the proof, the percolations are shown to be tributary to the spring or watercourse in a material degree, the loss of them causing a substantial diminution of the spring or watercourse, they are now treated as a component part of the watercourse, and follow rights on the watercourse, and rights therein are not regarded as underground rights separate therefrom."

See also Kinney on Irrigation and Water Rights (2nd Ed.), Vol. 2, Sec. 1194.

*(4) Percolating Waters Once Part of the Surface Stream*

In the instant case, however, as we view the facts, the use of the wells for irrigation does not alone intercept percolating waters on their way to the stream but percolating waters which were once part of the stream above the canyon have percolated therefrom and are on their return journey to the stream. The rule applicable

in such case, in our view, is that applicable to the use of the waters within the channels of the stream.

The rule of reasonable use on the land of the person whose use is complained of which applies where the percolating water is on its first voyage to the stream is based on the theory that any other rule would discourage the ownership and development of lands adjoining stream courses and ofttimes interfere with necessary and valuable improvements. The reason for the rule, however, does not apply where the percolating water was once a part of the stream above and veers temporarily away from the stream on its downward course, and where the use on user's land reaches the proportions, as here, of nearly a third of the river channel supply in that area. This ground water is so related to the stream system that it partakes of an interstate character and should be given adequate consideration in determining the relative rights of the two states in the waters of the stream.

*(5) Finding in Special Master's Report Relative to Wells*

It is found in the Special Master's report (p. 111):

"In addition to the surface water available for use within the State of Oregon, the farmers have tapped the sub-surface water supply by sinking about three hundred wells, from which wells they pump each year approximately 9000 acre feet of water. The water so pumped is used upon the lands where the several wells are located.

"There is no satisfactory proof that the use of the water from these wells materially lessens the quantity of water available for use within the State of Washington."

The complainant has excepted to this finding on the ground that it is not sustained by the law or the evidence.

(Complainant's Exceptions pp. 19-20.) For reasons hereinabove stated, it is believed that the use of 300 wells for irrigation to the extent shown by the record results in an injury to the stream supply available for Washington irrigators and is an element entering into the equities between the states in this action.

4.) Apportionment of Stream Supply

The stream supply is sufficient to satisfy rights with priorities up to 1891 in both states. There are approximately 10,500 acres in the related area in Washington with rights of 1892 and earlier priority. (Stipulation No. 3, p. 11.) There are approximately 2,600 acres in the related area in Oregon with rights of 1892 and earlier priority. (Stipulation No. 3, p. 11.) It requires approximately 115 c.f.s. to satisfy rights up to that priority, including the consumptive uses of the City of Walla Walla in Washington at the duty of water fixed in the Washington decree. (Wash. Ex. 11.) As heretofore shown, the average estimated summer supply of the stream system in Washington is 86 c.f.s., leaving a shortage in Washington for the satisfaction of the priorities of 1892 and earlier of 29 c.f.s. It requires approximately 110 c.f.s. to satisfy rights up to that priority, including the consumptive uses of the City of Milton and transportation losses usually allowed in Oregon at the maximum duty of water provided for in the Oregon decree. (Wash. Ex. 1.) As heretofore shown, the average estimated summer supply of the stream system in Oregon is 146 c.f.s., leaving a surplus in Oregon after the satisfaction of the priorities of 1892 and earlier in Oregon. The amount of this surplus depends upon the duty of water

to be used by Oregon. The rate above calculated is the maximum allowed by the Oregon decree. The surplus will vary according to the precipitation of the season but there will always be a surplus over the requirements of rights up to and including the Oregon 1892 priorities.

It is believed that this surplus should be apportioned first to the satisfaction of 1892 rights in Washington and that any remainder should be apportioned between the two states pro ratably in proportion to the amount of subsequent priorities in the respective states the remainder will satisfy beginning with the 1893 priority. Washington may receive the Oregon distribution through the main stream and through the East and West Prongs and Spring Branches and their connecting streams crossing the state line into Washington, by measurement at appropriate points thereon at the state line.

5. Adverse Use, Estoppel, Vested Rights, Tum-a-Lum River, and Separate Administration in Oregon

The complainant has heretofore filed its motion to strike affirmative defenses on adverse use, estoppel and vested rights, set up in the defendant's answer to the Bill of Complaint and this court has reserved its ruling thereon until submission of the cause to the court for final determination. The rights of the complainant under this motion have been reserved in stipulation No. 10, defining the issues on this phase of the case. (Stipulation No. 10, paragraph V, p. 8.)

*(1) The Doctrines of Adverse Use and Estoppel Inappropriate for the Determination of Relative Rights of States in An Interstate Stream*

It is believed that the strict doctrines of private adverse use and estoppel are inapplicable to the facts in

the instant case. Some of the elements necessary to be proved to sustain private rights by adverse use are lacking in such a situation as we have here. Private rights by adverse use are individual. A court of equity does not recognize group rights by adverse use. They cannot be acquired wholesale. One, or more, of the elements of hostility, notoriety, uninterruption, exclusiveness, and legality of use, is always lacking in a general use of water by numerous persons in ever varying extent, and during constantly changing periods of time.

The record here is that water in varying quantities has continuously run through the stream system from Oregon into Washington. The natural drainage is in that direction and there is no other source of stream supply (Wash. Nar. T. p. 235). From the beginning of irrigation there has been a progressive increase in the use of the water of the stream from year to year in both states (Wash. Exs. 1, 11). Oregon points to the diverting of the water of the main stream through the Little Walla Walla river in Oregon as constituting appropriation of all the water of the stream hostile to the State of Washington and its citizens. This division of the water is into a natural channel which again divides into other natural channels of the river system. As we have heretofore shown herein, the division of the supply of the stream at this point could not legally have initiated an appropriation of that amount of water, in any event, until in recent years for the reason that a beneficial use of that amount of water could not have been made on the number of acres of land under irrigation.

Moreover, the relative individual rights in the stream system have not been definitely known until recently.

The General Washington decree (Wash. Ex. 11) was not entered until 1928 (Wash. Ex. 11, p. 147). The final decree (Wash. Ex. 1) in the General Oregon Adjudication of the stream was not entered until 1933 (Stipulation No. 1, p. 1). As heretofore shown there has always been a substantial supply of water coming into Washington from the Oregon streams for use during the late spring, early summer and during the summer, until recently, when the summer supply has greatly diminished.

It is not believed that the State of Oregon and its citizens can legally sustain a right to the entire supply of the stream system in Oregon under these conditions by the application of the doctrines of adverse use and estoppel or otherwise.

Judge Whitson, in the case of *Morris v. Beau* (1906), 146 Fed. 423, describes the difficulties involved in the application of the rule of adverse use as between private parties in the following language (page 433):

"The statute of limitations is applied by analogy in courts of equity to that relating to the possession of real estate. It never runs upon a scrambling possession. It presupposes adverse, exclusive, and uninterrupted possession under a claim of right. The claim must be hostile to that of the person against whom it is asserted. The aid of the statute has occasionally been invoked with success in cases of this character, but not under conditions similar to those of this case.

"The defendants made their first diversions of water in 1893. A few of them have brought themselves, barely within the statutory period. It often happens that persons who are takers of water from a stream gradually enlarge their diversions until they begin to deprive the first appropriators of the amount to which they are entitled. The taking is so gradual, and the enlargement of the use so imperceptible, that it is impossible to fix a time when it begins to be adverse. This is not an unusual

situation, and it is presented by the testimony here. The quantity of water in this stream varies greatly from spring floods to low water in the fall. Most small streams are subject to this variation. The flow of water varies also with the seasons, depending largely upon the amount of snowfall or rain in the mountains. It is manifestly impracticable to apply the statute of limitations to such a state of affairs, and in this case particularly it could not apply, because the defendants have not had the uninterrupted use of the water for the statutory period. It is shown that they at times turned the water down, upon demand of the complainant. They have gradually increased their diversions, and just at what point they encroached upon the rights of the complainant and the intervener cannot be determined from the testimony, and just how long it has continued cannot be ascertained; but it is clear that they did not do so to any considerable extent until after the year 1893, and this suit was brought in 1903. As to real estate the possession is easily discovered. It is susceptible of actual proof, but here it is not shown that either the complainant or intervener were ever entirely deprived of water. During the flood time water always reached them. They had the use of it for a time, some years longer than others. Who can divine with definiteness just what amount of water the defendants used to the exclusion of the complainant or intervener, or how long it was used to their exclusion each year? The burden is upon the defendants to bring themselves within the statute, and the proof must be clear before a prescriptive right will be enforced. The claim cannot prevail under the conditions disclosed. *Last Chance Ditch Co. v. Heilbron* (Cal), 26 Pac. 523; *Fogarty v. Fogarty* (Cal.), 61 Pac. 570; *Boyce v. Cupper* (Or.), 61 Pac. 642; *Huston et al. v. Bybee* (Or.), 20 Pac. 51; Long on Irrigation, Secs. 90-91-92."

This decision was affirmed on appeal to the United States supreme court.

*Bean v. Morris* (1911), 221 U. S. 485, 55 L. ed. 821.

The same situation exists with respect to the application of the doctrine of private estoppel. It is said that the State of Washington and its citizens have failed to object to the use of water in Oregon or to take any action

to prevent such use. (Stipulation No. 10, p. 2.) Even as between private persons, inaction is never in itself sufficient to create an estoppel.

21 C. J. Estoppel, sec. 154, p. 1150.

The rule of private estoppel is stated in the case of *Morris v. Bean, supra* (1906), 146 Fed. 423, 433, as follows:

"It is safe to say that few cases of this character have been tried where the defense of estoppel has not been interposed with result uniformly unsuccessful. The estoppel argued for here is that the parties now seeking to assert their rights ought not be allowed to do so, because they knew that the defendants were building up their improvements, and relying upon the use of the water to maintain them. An all sufficient answer to this is that the defendants knew also that the complainant and intervener were relying upon the same water to maintain their improvements already made, and to carry on their farming operations already begun. Under this view of it, the one side is as much estopped as the other."

Affirmed *Bean v. Morris* (1911), 221 U. S. 485, 55 L ed. 821.

See also:

*Holbrook Irr. Dist. v. Arkansas Val. S. B. & I. L. Co.* (1929), 42 Fed. (2d) 541, 546.

Nor do we believe that the existence of private vested rights constitutes a defense herein. This action was instituted to determine the rights of the two states in the interstate stream in question. There are private vested rights involved in both states. The complainant is prosecuting the instant case in its sovereign capacity as a State of the Union.

*Georgia v. Tennessee Copper Co.* (1907), 206 U. S. 230, 237, 51 L. ed. 1038, 1044;

*North Dakota v. Minnesota* (1923), 263, U. S. 365, 373, 68 L ed. 342, 345.

*(2) Municipal Law Not Necessarily Controlling in Controversy Between States*

It is not believed that the application of the doctrines of adverse use and estoppel to rights of the respective states, as contended by Oregon, in the instant case would result in an equitable apportionment of the benefits of the use of the waters of the Walla Walla river to which each state is entitled. The rules of the municipal law are not applied by this court in a controversy of this nature where injustice will result.

In the case of *Connecticut v. Massachusetts, supra,* (1931), 282 U. S. 660, 75 L. ed. 602, 51 Sup. Ct. Rep. 286, Justice Butler states:

"The determination of the relative rights of contending states in respect of the use of streams flowing through them does not depend upon the same consideration and is not governed by the same rules of law that are applied in such states for the solution of similar questions of private right. *Kansas v. Colorado,* 185 U. S. 125, 146, 46 L. ed. 838, 846, 22 S. Ct. 552. And, while the municipal law relating to like questions between individuals is to be taken into account, it is not to be deemed to have controlling weight."

The State of Oregon, in the instant case claims the right to all the water in the stream system at the Red bridge and above irrespective of priority of use, as against the State of Washington. (Stipulation No. 10.) The use of water in Oregon has continued to increase from year to year. This increase has not ceased and presumably will continue. (Stipulation No. 3, pp. 11-12., Wash. Ex. 29, II p. 1-8.) The upper reaches of the stream lie in Oregon, and that state has an advantageous position with respect to the supply of the stream. This position should not be used to give Oregon a monopoly

of the stream supply to the wrongful injury of the State of Washington.

The rule applicable to such a situation is stated in the opinion in the case of *New Jersey v. New York, supra* (1931), 283 U. S. 336, 75 L. ed. 1104, 51 Sup. Ct. Rep. 478, in the following language:

"A river is more than an amenity, it is a treasure. It offers a necessity of life that must be rationed among those who have power over it. New York has the physical power to cut off all the water within its jurisdiction. But clearly the exercise of such a power to the destruction of the interest of lower States could not be tolerated."

In the case of *Howell v. Johnson, supra* (1898), 89 Fed. 556, after pointing out that the right to appropriate waters, on an interstate stream in Montana and Wyoming, is protected by the acts of Congress of July 26, 1866 and of July 9, 1870, (U. S. C. A. Title 43, Sec. 66) *supra*, the Court observes:

"When a party has obtained title to property from the National Government, the State Government has no right to destroy that title, except under the power of eminent domain. The State of Montana cannot step in and say, 'The right to the Water of Sage Creek, which the plaintiff acquired under the laws of Congress, you cannot exercise in this state.' This would be the taking of plaintiff's property without due process of law. It is a recognized rule of law that a person who has appropriated water at a certain point in a stream is entitled to have so much of the waters of said stream as he appropriated flow down to him to the point of his diversion."

The doctrine of adverse use and estoppel has been applied as between states in boundary disputes.

*State of Michigan v. State of Wisconsin* (1926), 270 U. S. 295; 70 L. ed. 595; 46 Sup. Ct. Rep. 290;

Honnold, Supreme Court Law, Vol. 1, p. 65-66, and the case therein cited.

The doctrine is seldom applied to rights on interstate streams. One reason is suggested in the case of *Morris v. Bean, supra* (1906), 146 Fed. 423, in the following words:

"As to real estate the possession is easily discovered It is susceptible of actual proof, but here it is not shown that either the complaint or intervenor were ever entirely deprived of water. During the flood time water always reached them. They had use of it for a time, some years longer than others."

In our view, long continued use by one state of property belonging to another is a fact, if it exists, to be considered by this court in an original action involving a controversy between states over their respective rights in the property in dispute, but the court is not circumscribed by any rule of municipal law of any or all of the contending states in determining the controversy.

The rule relative to prescriptive rights claimed by a nation, generally recognized in international law, is tersely stated in Oppenheim, International Law, Vol. 1, Sec. 243, p. 294, as follows:

"From the conception of prescription, as above defined, it becomes apparent that no general rule can be laid down as regards the length of time and other circumstances which are necessary to create a title by prescription. Everything depends upon the merits of the individual case. * * *"

*(3) A Stream Section of Intermittent Flow Does Not Divide a Single Stream System into Two Independent Streams*

The record discloses that the diversion of a substantial quantity of the waters of the main stream at

the Red bridge into the Little Walla Walla renders the surface of the bed of the Tum-a-lum dry between the Nursery and the McCoy bridges. This practice, in our view, does not divide the stream into two independent systems or change the relative rights of the two states in and to the waters of the entire stream system. In any event, the higher waters run in the channel and the subsurface flow breaks out in springs below the McCoy bridge.

The rule is stated in the case of *Kansas v. Colorado, supra*, as follows (115):

"Equally untenable is the contention of Colorado that there are really two rivers, one commencing in the mountains of Colorado and terminating at or near the place where the former ends, and from springs and branches starting a new stream to flow onward through Kansas and Oklahoma towards the Gulf of Mexico. * * * That there is a great variance in the amount of water flowing down the channel at different seasons of the year and in different years is undoubted: that at times the entire bed of the channel has been in places dry is evident from the testimony. In that way it may be called a broken river. But this is a fact common to all streams having their origin in a mountainous region, and whose volume is largely affected by the melting of the mountain snows. * * *"

See also *Hildebrandt v. Montgomery* (1925), 119 Ore. 214, 234 Pac. 269.

In dealing with asomewhat similar condition in the case of *Morris v. Bean, supra* (1906), 146 Fed. 423, the court observed:

"The defendants claim * * * that it is inequitable * * * 'to lay barren and waste the lands of defendants in Montana that two farms in Wyoming may be supplied with water.' This may appeal to state pride and local bias but the contention disregards the maxim that he who is first in time is strongest in right, which

is the very essence of the doctrine of appropriation. Complainant and intervenor in this case found certain natural conditions. There was a running stream upon the public lands, supplied from the snows of the Pryor Mountains. It afforded water sufficient for their purposes. The arid lands near and adjoining which were subject to settlement invited its use. Their needs as farmers required it. They took advantage of the benefits which the laws guaranteed and which the conditions made available; hence the plea on behalf of the defendants that the creek goes dry every year and did prior to their settlements is not a defense though it might, for the purpose of this decision, be admitted without aiding them. If the creek goes dry every year it is because of the shortage of the supply above. * * * The appropriators took with the right to have the stream continued to flow as it was wont to flow and to remain in the condition in which they found it, and whenever water is diverted above it keeps back that which would otherwise reach them, and the more water that is kept back the less will the complainant and intervenor have. But for the wholesale diversions by defendants the water would reach them later in the season and abide longer and this is what their appropriations entitle them to. In the abstract there would be more people benefitted by allowing the defendants to take all the water. Its flow through a sandy and gravelly stretch of something like 8 or 10 miles and perhaps farther is in a measure a waste but equity does not consist in taking the property of a few for the benefit of the many even though the general average of benefits would be greater.

"The witnesses have perhaps told the truth but not all the truth. That the water would not reach one lower down the stream is quite a common defense. It is often urged in irrigation suits by trespassers as a justification for their invasion of the rights of others. It is probably as old as irrigation and perhaps as trespass itself. In this case failure of the water to reach the complainant and intervener was co-incident with its use by the defendants. The fact that witnesses saw in the varying changes of the seasons a shortage of water at different points on the stream does not explain the whole situation; in other words, in one extremely dry season perhaps the water was lower than in another. It varies and

it varies because of the shortage of the supply above and these defendants retarded its flow by reason of their diversions which decreased the supply to that extent which prevented it from reaching Wyoming at all; and when the supply is diminished by the light snowfall the diversion of the defendants increases the shortage and that is an invasion of the rights of the appropriators who are seeking the enforcement of their priorities in this suit."

All natural stream channels are more or less wasteful. The natural channels through which Oregon distributes water to the lands over the Milton-Freewater fan are wasteful. The Tum-a-lum section of the main stream is no exception. It is a losing stream in this section. A number of Oregon witnesses testified concerning measurements taken to show that 25 c.f.s. or more of water would be lost in this section of the stream (Ore. Abs. pp. 24, 25, 48, 54, 55). Dr. Woodburn for Washington and Mr. Humphrey for Oregon made a study of this section of the stream in June, 1932. At that time 20 c.f.s. was allowed to flow past the Nursery bridge. It did not get over the dry spot as a surface flow but there was a flow at the state line continuously (Wash. Nar. T. p. 144). Most of these measurements were taken after the channel had been dry and were limited to this particular section. No observations were made of the flow farther down the stream where the water would first make its appearance. The loss in this section of the stream can be reliably ascertained only by measurements in times of continuous flow. These measurements should include the flow, also, farther down the stream in Washington. The only measurements of that nature shown in the record were conducted by Dr. Woodburn for Washington during November and De-

cember, 1933. Concerning these measurements, Dr. Woodburn testified in substance as follows:

"As to my opinion as to what is the loss of water in the Tum-a-lum section from the Nursery bridge to the Washington state line, I will say that under the conditiions of steady flow, which occur very seldom throughout the year in that stretch, the measurements which we have, as given in Hydrographic Data, Exhibit No. 18, indicate that during the period from the 18th of November, 1933 to the 5th of December, 1933, inclusive, was a period of fairly steady flow at the Milton Nursery bridge, at the state line, and at the State Highway bridge, about two miles below the state line. The average flow during that time at the Nursery bridge was approximately 20 cubic feet per second. The average flow during that time at the state line was approximately 15 cubic feet per second. The average flow at the state highway during that time was approximately 18½ cubic feet per second."

"That gives a very strong indication, therefore, and is the most reliable data that we have and indicates that the losses in the Tum-a-lum from the Nursery bridge to the state line do not exceed seven cubic feet per second at that flow, while from the Nursery bridge to the state line (Highway) the losses do not exceed 3½ cubic feet per second. The distance from the Nursery bridge to the state line is about four miles, and from the Nursery bridge to the State Highway bridge is between five and six miles."

### *(4) Separate Administration in Oregon*

The State of Oregon alleges that water has been distributed by the Oregon water master from the Walla Walla river, the West Little Walla Walla river, called West Prong in Oregon, and the East Little Walla Walla river, called East Prong in Oregon, as a stream system wholly in Oregon, separate and independent of any part thereof in the State of Washington, and without regard to any claim of right of diversion or use on the part of

any lower diverter from said stream in the State of Washington. (Stipulation No. 10, p. 8.)

It is contended that this method of administration of the water has caused the Tum-a-lum section of the main stream to dry up in the summer and has resulted in a relinquishment of the rights of the lower users on the stream to have water flow through the Tum-a-lum section of the stream in the summer.

This contention is closely related to the claim of adverse use and estoppel which has heretofore been considered herein. The same rule with respect to the municipal law as mentioned in connection with the claim of adverse use and estoppel is applicable to this contention.

Water is flowing in the channel of the Tum-a-lum section of the main stream a great part of the year. The subsurface flow is continuous and breaks out in springs below the McCoy bridge. The amount of the flow in any natural stream varies in different sections of the stream. Some sections are gaining and some are losing. A diversion of the surface flow at one point is not a diversion of the whole stream supply. Periodic diversions of varying duration and beginning at different times in the year cannot be made the basis of a claim of monopoly of all the water in the stream system, which will be the logical result if Oregon's contention is sustained.

We appreciate the fact that diversions away from the main stream must be made in some instances to satisfy early rights in Oregon. The Peacock Mill company, for example, has a right with a priority date of 1888 to divert 56.25 c.f.s. from the Walla Walla river. Its power plant discharges into the Little Walla Walla river just above the "Frog". This throws 56 c.f.s. into the natural

channels in that locality. These channels, however, as heretofore pointed out have physical connection with the East and West Little Walla Walla rivers which run across the state line into Washington and join the main stream.

The problems of administration in Oregon do not enlarge the rights of Oregon to the waters of the river systems beyond reasonable necessities. They do not create a license to Oregon to use all the waters of the stream system in that state without regards to the rights of the State of Washington.

## 3. CONCLUSION

(I) It is believed that in the interest of such future development as may be possible through improvements making more water available during times of water scarcity, the rights of the State of Washington to the water supply coming to Washington from the stream system in Oregon, should be more clearly defined than in the report of the Special Master herein.

(II) It is believed that an equitable apportionment of the benefits of the use of the waters of the stream system by Oregon does not require as liberal a rate of allowance of water as the maximum rate provided in the General Oregon Decree. (Wash. Ex. 1.)

(III) It is believed that the State of Washington is entitled to a decree herein assuring it and its citizens of its equitable share of the supply of the stream system.

(IV) It is believed that a decree herein enjoining the State of Oregon from diverting and using more of the waters of the stream system in Oregon than that determined by this court as its equitable share of the waters of the stream, will tend to remedy the waste of water and the injury to the ground water support of the stream complained of by Washington.

(V) It is believed that the rule of the *Wyoming-Colorado* case may properly be applied herein. The record shows that the average summer stream water supply in the related area in Washington is sufficient to satisfy rights with 1891 and earlier priorities and to satisfy part only of the rights of 1892 priority, while the average summer stream water supply in the related area

in Oregon is sufficient to supply all rights with 1892 and earlier priority with considerable surplus for satisfaction of rights of priority later than 1892. It is believed that the complainant herein is entitled to a decree awarding to the State of Washington its equitable share of the surplus in Oregon over and above the amount of water necessary to supply rights on the stream system in that state with priority of 1892 and earlier and enjoining the State of Oregon and its citizens from diverting or using such share of water as shall be awarded to the State of Washington.

(VI) It is believed that the decree herein should incorporate the provisions of the settlement of the relative rights of the two states in the waters of Mud and Pine creeks and their respective tributaries set out in stipulation No. 2, on file in this cause.

Respectfully submitted,

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IN THE

# SUPREME COURT

OF THE

UNITED STATES

IN EQUITY

---

NO. 11, ORIGINAL

---

OCTOBER TERM, 1935

---

THE STATE OF WASHINGTON,
*Complainant,*
*v.*
THE STATE OF OREGON, *Defendant.*

---

## PROOF OF MAILING COMPLAINANT'S BRIEF UPON COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

---

STATE OF WASHINGTON,
County of Thurston. } *ss.*

The undersigned being first duly sworn on oath deposes and says that on the .....day of January, 1936, at Olympia, Washington, ....he deposited in the United States Postoffice in sealed envelopes, one addressed to "Mr. Isaac H. Van Winkle, Attorney General, Salem, Oregon," one addressed to each "Mr. James A. Fee and Mr. Charles Z. Randall, Pendleton, Oregon," and one addressed to "Mr. George T. Cochran, LaGrande, Oregon," counsel for State of Oregon, true copies of the

foregoing Complainant's Brief upon Complainant's Exceptions to the Report of the Special Master in the above entitled cause.

.....

Subscribed and sworn to before me this.....day of January, 1936.

.....

*Notary Public, residing at Olympia, Washington.*

My commission expires.....

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CHARLES ELMORE CROPLEY
CLERK

IN THE

# Supreme Court of the United States

IN EQUITY

No. 11, ORIGINAL

OCTOBER TERM, 1935

THE STATE OF WASHINGTON, *Complainant*,

*v.*

THE STATE OF OREGON, *Defendant*.

# BRIEF OF STATE OF OREGON UPON EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

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IN THE

# Supreme Court of the United States

IN EQUITY

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No. 11 ORIGINAL

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OCTOBER TERM, 1935

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THE STATE OF WASHINGTON, COMPLAINANT,

*v.*

THE STATE OF OREGON, DEFENDANT.

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# BRIEF OF STATE OF OREGON UPON COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER

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## I.

## STATEMENT

### (a) Criticism of Statement in Washington Brief.

In a small paragraph on page 8 of Washington's brief is a statement to the effect that the Little Walla Walla river and its distributaries are "short cut by-passes" from the main stream in Oregon to the main stream in Walla Walla.

It is only during time of flood and extreme high water that any water flows through these distributaries and into Washington.

During and throughout the irrigation season these distributaries (the Ford and Crockett branches) have a dry stretch in their course similar to the dry stretch in the Tum-a-lum (Or. Abs. of Record, Schwald, 33; Rogers, 34; Roeder, 41 and 42; Perry, 48; Elba Rogers, 31; and Mason 55) and no water from the stream in Oregon is supplied for irrigation in Washington through these channels.

Under the heading "Precipitation" (Wash. Brief 10 to 12) is a discussion of precipitation records at Milton, Walla Walla, and Lowden. It must be remembered that no records of precipitation in the mountains above Milton are kept. Because of the steepness of the ground such rains have an immediate effect on the water supply of the stream in the irrigated districts, although there may have been no rain in the lowlands. Wash Exhibit 18, page 7, shows no rain at Milton from May 27, 1932, to September 30, 1932, save a trace on August 9 and a trace on September 23, yet Wash. Exhibit 18, page 54, shows that on the south fork of the Walla Walla river at Station 214 the river rose 19 c.f.s. from June 2 to June 4; 16 c.f.s. on June 10; 19 c.f.s. on July 3; 28 c.f.s. on September 20. These "flashes" of the stream could only be caused by unrecorded rain in the mountains.

At the bottom of page 12, Washington's brief, there is a reference to "ground water storage". It must be understood that the ground water is a wave moving down the slope—a hill of water. There is no reservoiring underground, and no static water. (Or. Abs., Piper, pp. 69, 71, 72, and 75.)

On page 14, Washington's brief, there appears the statement "There is little if any regulation above the

forks and there is generally an over-diversion". This has no effect upon the problem. The stream is regulated there (Or. Abst. pp. 52 and 53.) The canyon there is narrow—the walls are steep—the water is used near the riverbanks—the soil is loose gravel—the canyon is floored with basaltic rock, and the water not absorbed by plant life returns at once to the stream and no substantial waste results (Wash. Nar. Test., Chase, p. 21; Or. Abst. Mason, pp. 52 and 53; Perry, p. 48; Harding, p. 124). There is no proof of loss of water in any quantity in this stretch—only vague estimates no better than guesses.

The table on pages 16 and 17 of Washington's brief and the conclusions drawn therefrom are valueless because they deal only with a "mean" flow and a "daily average of below mean flow". "----- the stream is subject to an annual spring freshet and is flashy throughout the year." (R. p. 12; Stip. No. 3, Par. 1.) A "mean" flow can not furnish a standard for practical distribution of water on a "flashy stream". Nor is this difficulty cured by calculating a "daily average of below mean flow", which would simply be to substitute one "mean" for another.

On page 20, Washington's brief, under the heading "total Summer Supply in Oregon", is an attempt to calculate an "average summer supply of the stream in Oregon". The flashy nature of the stream makes such a calculation valueless as a basis of decision or argument in this case. (Wash. Ex. 18, pp. 24 to 63.) Tables of Stream Measurements in Oregon show that there is such a variance from year to year in measurements taken at the same measuring stations as to make it impossible to use such an "average" as a basis of distribution. The years of plentiful supply and the years

of scarcity of supply do not alternate in anything approaching regular order.

Pages 20 to 24, Washington's brief, are devoted to a discussion of water supply in Washington. The Washington measurements referred to are too scanty and scattered to furnish a basis for calculation of water supply or for comparison with Oregon.

On pages 29 to 32, Washington's brief, are set forth "estimates" as to the quantities of the acreage in the various soil classes in Oregon and Washington. These so-called "estimates" are mere guesses and can furnish no basis of decision in this case, since counsel for Washington admitted at the hearing before the Special Master that "it is impossible to make a real estimate". (Wash. Nar. Test. p. 10.)

Pages 34 to 36, Washington's brief, give a partial history of adjudication of water rights. In addition to the matters there mentioned it should be noted that beginning in 1905 and terminating in 1912 there was an adjudication by the courts of water rights from the main stream in Oregon (Or. Ex. 31), and that since 1911 the distribution of water in Oregon has been under the control of water masters who are state officers. (R. 236 to 238; Or. Abs. Roeder, p. 41.)

On page 39, Washington's brief, is the statement, "More or less the same types of crops are grown on the related areas in the two states". Although this is true in a sense, the statement is misleading. In Oregon but 2,500 acres of the 10,000 acres irrigated are planted to grain and alfalfa (crops requiring a small amount of water), while the balance is planted to orchards, vegetables and small fruits requiring a far

greater amount of water. (R. 15, Stip. 3, § III.) In Washington the greater part of the irrigated land is devoted to the raising of alfalfa and grain.

**(b) Stream System.**

The north and south forks of the Walla Walla river each flows through steep rock-walled canyons floored with basaltic rock to the "forks" where they converge, and, after uniting, flow through a similar canyon to the city of Milton (R. 82). From Milton the rock walls diverge at a wide angle open to the north and west which incloses a broad area floored by stream deposits—the so-called "gravel fan", described in Piper's report (Wash. Ex. 16, p. 125; R. 85). From the sources of the forks to the end of the canyon the stream is a gaining stream.

At Milton the Little Walla Walla system of distributaries (the Little Walla Walla which separates into the Ford and Crockett branches, which in turn each separate into several branches or prongs) spread out over the "gravel fan" (Wash. Ex. 16, p. 127; R. 86).

At the point where the Little Walla Walla river diverges from the main stream at the "Red bridge", all waters have, during each irrigation season from 1880 to the present time, been diverted from the main stream into the Little Walla Walla distributary system, and thus spread out over the gravel fan so that the Tum-a-lum or main stream has been dry throughout the irrigation season from the Nursery bridge to the McCoy bridge, a distance of two miles (Or. Abs. Forsythe, pp. 25 and 26; Fee, pp. 40 and 41; Alta Rogers, pp. 33 and 34; Elba Rogers, p. 28; Schwald, pp. 32 and 33; Burlingame, pp 21 and 22; Roeder, p. 41; Perry, p. 47; Wash. Nar. Test. Woodburn, p. 144).

The waters in the Little Walla Walla distributary system are so used by irrigation that the several channels from 1889 to date have been rendered entirely dry before leaving the gravel fan, so that there is no flow of water through these channels to the lower stream system during any part of the irrigation season and all waters are used in irrigation on the gravel fan (Or. Abs. Schwald, p. 33; Rogers, p. 34; Roeder, p. 42; Perry, p. 48; Elba Rogers, p. 31; Mason, p. 55). Thus all of the waters of the stream have been used during the dry season without protest on the part of Washington.

Throughout the gravel fan the main stream and all of the distributaries are losing streams (R. 130).

Because of the permeable nature of the soil on the gravel fan all water used in irrigation, and not absorbed by plant life or lost by evaporation, sinks and becomes a part of the ground water supply. This ground water supply is not in the nature of an underground lake, river, or reservoir (Or. Abs. Piper, pp. 69, 71, 72 and 75), but is purely percolating water, similar to a hill or slope of water percolating radially outward under the whole gravel fan (Or. Abs. Piper, p. 70).

Because of the slope of the ground over the gravel fan decreasing from 80 feet to the mile at Milton to 40 feet to the mile at Whitman, and, because of the ground water encountering deposits of impermeable material at the edge of and below the gravel fan, the ground water breaks out into three zones of springs, described in Piper's report (R. 131 to 138). These zones of springs are concentric around the apex of the gravel fan at Milton and the first zone breaks out in the river channel at or near the McCoy bridge, about one mile south of the state line. Other springs in this zone form tributaries to the main stream.

This action of the underground water makes the Walla Walla river a gaining stream from the McCoy bridge on (R. 137).

The water from these springs has furnished the only water (aside from Mill creek and other tributaries in Washington) which was available for summer irrigation in Washington since before 1880 to the present time.

### (c) Irrigation Development.

The rainfall in the area is about 12 or 13 inches annually, with only from 1½ to three inches during the summer months. The lands therefore require irrigation in order to produce a crop. The first irrigation was practiced in the state of Washington. The richest and most productive soil in Washington, in the Walla Walla basin, is along the tributaries which have a water supply either wholly from the state of Washington, or from Oregon at a point where Oregon can not use it. The first irrigation in Washington was therefore from these tributaries. In Oregon, however, the richest land is upon the gravel fan and is irrigated from the main stream and its distributaries.

The table included in Stipulation 3 indicates that prior to 1892 the most intensive development by irrigation in Washington was upon these tributaries, while the most intensive development by irrigation in Oregon was upon this main stream and its tributaries. Thus in 1891 it appears that in Oregon 2,231.67 acres were irrigated by water from the Walla Walla river, while only 285 acres were irrigated from that source in Washington.

The same tabulation shows (R. 19 and 20) that the development of irrigation in Oregon from the Walla

Walla river from the beginning to the present time was steady and regular. It represents the steady growth and settlement of a new country.

On the other hand, the development of irrigation in Washington from the Walla Walla river was sporadic. Although the tabulation (R. 20) shows more than 8,000 acres with a priority of 1892 listed in the Washington decrees, this is very misleading. 7,000 acres of this 8,000 acres are in the Gardena project.

Stipulation No. 5 (R. 28 to 38) shows that the first irrigation of any part of this 7,000 acres was in 1898 and that only 68 acres were irrigated in that year. In 1899, 20 additional acres (of the 7,000) were put under irrigation, but these were abandoned in 1918. In 1901, 280 additional acres (of the 7,000) were placed under irrigation, but these also were abandoned in 1918. In 1904, 105 additional acres (of the 7,000) were irrigated. Therefore, out of the 7,000 acres of land tabulated as of an 1892 priority, only 473 had actually been irrigated by 1904 (12 years later), and 300 of the 473 acres were later abandoned. The record shows (R. 38) that even now only 4,530.2 acres in Washington out of this 7,000 acres are now irrigated.

All of this land has been developed and irrigated without the use of any of the water flowing in the stream in Oregon above the Red bridge (Or. Abs. Burlingame, p. 21).

The same tabulation (R. 20 and 21) shows that the development of irrigation in Washington from waters of the main stream was sporadic. As many as six years would elapse without any irrigation of additional lands in Washington from this source of supply, yet in Oregon the development progressed steadily year by year.

The gravel fan is intensely cultivated. It is extremely rich in its production. It has a population of over 5,000. The average farm acreage on the gravel fan is about seven acres. Counting the total acreage irrigated in Oregon, the average farm is a little over 10 acres. The assessed value of property in the irrigated district in Oregon is close to $3,000,000, and the actual value is more than double that amount. (Stip. No. 3; R. 18.)

The intensive development and the luxuriant production of the lands on the gravel fan in Oregon is based upon the use of the water of the Walla Walla river, supplemented by the use of wells. On the other hand, Washington's development has been made by the use of flood waters; waters of Washington tributaries and waters arising below the inner zone of springs and, during the dry season, without the use of any waters arising above the Red bridge in Oregon.

Washington, by this case, seeks to acquire that which she has never had, namely, the right to use during the dry season waters rising above the Red bridge in Oregon.

## ARGUMENT

Pages 52 to 89, Washington's brief, are devoted to a discussion of some of the Master's Findings of Fact. Isolated sentences and paragraphs are discussed without regard to the whole. Because of the arrangement and context of the discussion no helpful summary can be made.

We follow the arrangement and numbering adopted by Washington.

## BURDEN OF PROOF.

In discussing these questions of fact, it is necessary to bear in mind where lies the burden of proof and whether the complainant has established its contentions in accordance with the rules governing the burden of proof.

Washington seeks injunctive relief against Oregon. The burden of proof in such a case is much heavier upon the complaining state than it would be in the case of an individual plaintiff.

In *North Dakota v. Minnesota*, 263 U. S. 365, 374, the supreme court held:

> "In such action by one state against another, the burden on the complainant state of sustaining the allegations of its complaint is much greater than that imposed upon a complainant in an ordinary suit between private parties. 'Before this court can be moved to exercise its extraordinary power under the constitution, to control the conduct of one state at the suit of another, the threatened invasion of rights must be of serious magnitude and it must be established by clear and convincing evidence.' New York v. New Jersey, 256 U. S. 296, 309; Missouri v. Illinois, 200 U. S. 496, 521."

In *Kansas v. Colorado*, 206 U. S. 46 at 109, (51 L. Ed. 956), this court, speaking through Mr. Justice Brewer, said:

> "—It should be clear that such sister state has not merely some technical right, but also a right with a corresponding benefit."

This burden of proof can only be met by the establishment of facts by clear and convincing evidence. It is not met by declarations, contentions, estimates, or calculations on the part of counsel.

## (I)
## AS TO FINDINGS OF FACT

Paragraph (1) on page 59 of Washington's brief merely states counsel's contention that the Master's Report fails to consider certain physical conditions of the stream system. It refers to no evidence, stipulations, or exhibits. The Master visited and went over the stream system, and saw and observed the physical conditions on August 23 and 24, 1933. (Master's Report, p. 2.) His report is replete with references to and discussions of the very conditions counsel charges him with ignoring.

**Paragraph (1), pages 60 and 61, Washington's Brief.**

In this paragraph Washington attacks the Master's Finding that the stream flows are variable and that a community can not develop and maintain itself on sporadic supplies of water. The Master's Finding is amply sustained by stipulations and proof.

Stipulation No. 8 (R. 12) says:

> "——the stream is subject to an annual spring freshet and is flashy throughout the year."

The same language appears in Piper's report (Wash. Ex. 16; R. 89), and on that page Piper further states:

> "Thus although the daily discharge was commonly less than 150 cubic feet a second and exceeded 800 cubic feet a second on only 18 days of the 5-month period ending February 28, 1933, it twice rose to about 1,000 cubic feet a second, but maintained that discharge less than 24 hours."

See also hydrograph (R. 90 A).

W. C. Mason testified (Or. Abs. p. 53) that in June, 1927, a freshet raised the stream 1,000 second-

feet in 20 minutes when the stream had been flowing but 125 second-feet, and (Or. Abs. p. 56) that there were drops as high as 25 second-feet in a day.

Warren Roeder testified (Or. Abs. p. 142) that when it rains there are floods over the tops of the channels.

Turning to Washington Exhibit 18, which is the Record of Stream Measurements from which counsel has made his calculations as to "mean" flow and "daily average of below mean flow", and selecting a few pages at random we find:

Washington Exhibit 18, page 38, covering measurements of the Walla Walla river near Milton shows that during the period from August 7 to August 15, 1920, there were fluctuations of as high as 7 c.f.s. and 8 c.f.s. in a day. From August 24 to August 31 there were fluctuations of from 7 c.f.s. to 29 c.f.s. in a day. From September 10 to September 17 there were daily fluctuations ranging from 4 to 20 c.f.s. From September 21 to September 31 fluctuations ranged from 5 to 18 c.f.s. in a day. During June the stream was never at the same level more than two days in succession, and there were daily fluctuations ranging from 4 c.f.s. to 52 c.f.s. During the month of May of that year the stream was never the same but two days at a time and there were daily fluctuations ranging from 4 c.f.s. to 118 c.f.s.

Washington's Exhibit 18, page 39, covers measurements of the Walla Walla river near Milton during 1918. From July 5 to July 8 there were fluctuations on two different days of as high as 15 c.f.s. From July 16 to July 20 there were fluctuations of 20 c.f.s. and of 15 c.f.s. in a single day. July 25 to July 31 we

find fluctuations of as high as 32 c.f.s. in one day. From August 25 to August 31 fluctuations were as high as 15 c.f.s. in one day. From September 6 to 7 the stream jumped 18 c.f.s. in one day. From September 10 to September 11 the stream jumped 10 c.f.s. in one day and dropped 10 c.f.s. on the 12th. From September 13 to September 17 fluctuations were as high as 10 c.f.s. in one day. During the month of June of that year there were four different days that the stream rose or fell as much as 15 c.f.s. in one day.

Washington's Exhibit 18, page 42, covers measurements on the Walla Walla river near Milton in 1924. It shows that from July 4 to July 9 there were fluctuations of as high as 13 c.f.s. in one day. From August 1 to August 7 fluctuations were as high as 11 c.f.s. in one day.

Washington's Exhibit 18, page 48, covering measurements of the Walla Walla river near Milton for the year 1926 shows that from August 29 to September 2 fluctuations of 17 c.f.s. and of 26 c.f.s. and 11 c.f.s. in a single day are shown. From September 21 to September 25 there was a fluctuation of 17 c.f.s. in one day.

Washington's Exhibit 18, page 50, covering measurements of the Walla Walla river near Milton in 1928 shows that on July 3 there was a fluctuation of 14 c.f.s. in a single day. On September 14 there was a fluctuation of 11 c.f.s. in one day.

Washington's Exhibit 18, page 58, shows that in 1932 from July 1 to July 5 there were fluctuations of 10 c.f.s. in one day and of 13 c.f.s. on another day, and that in September from the 19th to the 23d there was a fluctuation of 16 c.f.s. in a single day.

Records for other years also show sudden changes.

Washington offered no contradictory evidence.

In the face of these stipulations and proofs Washington attempts to show that the Master's Finding of a variable stream flow is without basis of fact by calculating a summer average mean of 119.05 c.f.s. from 15 years of measurements. The table showing his calculation appears in his brief pages 16 and 17, and his conclusions on page 18.

The table shows the mean for July, 1922, to be 142 c.f.s. and the mean for July, 1926, to have been 80.6 c.f.s. A variation between the means in the most critical month of the year of 61.4 c.f.s., or a variance of over 50 per cent of counsel's mean. During July the "mean" was above counsel's 15-year mean seven years, and below it eight years (seven of which were in succession). During August the mean was above counsel's 15-year summer average mean but two years, and was below it 13 years, and that as between 1922 and 1930 there was a variance of 49.8 c.f.s. During September the mean was above counsel's mean five years and below it 10 years, with a variance between 1927 and 1930 of 68.1 c.f.s.

This study of counsel's tabulation shows the utter impossibility of using any "summer average mean" calculated over a period of years as a basis for division or distribution of water.

It justifies the Master's conclusion that: "An agricultural community can not develop and maintain itself upon sporadic supplies of water. The farmer must be able to place reasonable dependence upon the water supply if he shall make the expenditures and put forth

the effort necessary to reap the harvest incident to the combination of the soil with the water."

The situation in this case is similar to that in *Wyoming v. Colorado*, 249 U. S. 419; 66 L. Ed. 999, where Mr. Justice Van Devanter said on page 471:

> "Colorado's evidence, which, for convenience, we take up first, is directed to showing the average yearly flow of all years in a considerable period, as if that constituted a proper measure of the available supply. We think it is not a proper measure; and this because of the great variation in the flow. To be available in a practical sense, the supply must be fairly continuous and dependable." * * *

And again on page 476 said:

> "* * * Even on this basis there were 13 years in which the flow was below the average, and, of these, six came in immediate succession. In four the deficiency exceeded 100,000 acre-feet, and of the four only one followed a year in which there was an excess sufficient, if carried over in storage, to cover the deficiency. This suffices to show that the average of all years is far from being a proper or safe measure of the available supply. An intending irrigator acquiring a water right based on such a measure would be almost certainly confronted with drought when his need for water was greatest. Crops can not be grown on expectation of average flows which do not come, nor on recollections of unusual flows which have passed down the stream in prior years. Only when the water is actually applied does the soil respond." * * *

**Paragraph (2), pages 61 to 64, Washington's Brief.**

By this paragraph Washington attacks the findings of the Master that from 1880 to 1930 the irrigators within Oregon continuously and without interruption

and without protest diverted all the flow of the Walla Walla river rising above the Red bridge. This finding of the Master is amply supported by the uncontradicted evidence.

The evidence of Oregon's witnesses shows conclusively (and we believe without contradiction) that never within the memory of any witness has any water been permitted to flow down the Tum-a-lum river to the state of Washington or any of its water users after the spring flood waters subsided in any year (Or. Abs., Forsythe, pp. 25 and 26, (1880 on); Fee, pp. 40 and 41, (1885 and 1886); Alta Rogers, pp. 33 and 34, (1888 on); Elba Rogers, p. 28, (1889 on); Charles Schwald, pp. 32 and 33, (1892 on); Mason, p. 54, (1901 on); Burlingame, pp. 21 and 22, (1905 on); Roeder, p. 41, (1913 on); Perry, p. 47, (1918 to 1928); and by Washington's witness, Dr. Woodburn, (1932 and 1933), Wash. Nar. Test., p. 144).

For as long a time as the record covers, the connecting channel between the Ford branch and the Spring branches has been dry each year (Or. Abs., Schwald, p. 33, (1891 on); Alta Rogers, p. 34, (1890 on); Roeder, p. 42, (1913 on); Perry, p. 48, (1918 to 1928); Elba Rogers, p. 31, (1889 on)).

The same is true of the connecting channel between the Crockett and the East Little Walla Walla (Or. Abs., Alta Rogers, p. 34, (1889 on); Mason, p. 55, (1901 on); Roeder, p. 41, (1913 on); Perry, p. 48, (1918 to 1928); Elba Rogers, p. 31, (1889 on)).

On this point also Washington offered no contradictory evidence. Again counsel attempts to supply a lack of evidence and a failure to meet the burden of proof by an ingenious calculation.

Again he takes his 15-year mean and attempts to apply it to the years 1880, 1885, and 1890, which years are not even covered by his stream measurements. Such a calculation does not disprove the Master's Finding that the irrigators had appropriated to their use all of such water, regardless of whether or not that use in 1880, 1885, or 1890 was wasteful. The evidence is uncontradicted that they did appropriate all the water to their use, and that this use was continuous and without interruption and without protest. The calculation does not account for Washington's conduct in not protesting.

It is apparent that counsel has misconstrued the Master's use of the word "appropriate". The word was not used in the sense of completing a vested right to the use of water, but was merely used to designate a taking and use of the water. This is shown by the Master's language on page 55 of his report which follows, qualifies and explains the use of the word as follows:

> "The use of the water in the state of Oregon was with the knowledge of many of the irrigators within the state of Washington. (Wash. Abs. pp. 41, 42, 52, 64, 67; Or. Abs. p. 121.) The testimony shows that as early as 1891 there was being irrigated from the Walla Walla river through the Little Walla Walla river, within the state of Oregon something more than 2,200 acres of land. (Stip. No. 3.) Whatever this amount of land was, the diversion of the water of the Walla Walla river at the Red bridge was complete and continuous. The use may not have been as economical as modern irrigation methods, in a developed agricultural district, would dictate, but the fact remains that all of the water was taken and that it did not during the same period, return directly to the channel of the Walla Walla river through the Ford branch or the Crockett branch, which are the channels which would have

conducted any excess diversion back into the main river. (Wash. Ex. 17, Or. Abs. pp. 3, 7, 33, 34, 42, 48.) * * *"

The effect of this finding is to point out that Washington never had the use of this water, never claimed a right to its use, never protested when they saw Oregon use it, and has not yet acquired a right to the use of any of the waters rising in Oregon above the Red bridge during the dry season.

True it is that "excessive diversions can not legally consummate appropriations for the amounts of the excess", and that "waste of water is not tolerated in arid regions". But these legal rules are not involved in a discussion of this finding when its meaning and purpose are understood.

As the Oregon irrigated territory progressively developed, the use of water became carefully regulated and waste prevented. State regulation began in 1911 (R. 236–238), and has continued till the present time (Or. Abs. Roeder, pp. 41–43; Mason, p. 52; Perry, pp. 46–47) based on adjudications of water rights begun in 1905 and completed in 1912 (Or. Ex. 31) and other later adjudications (Wash. Exs. 1, 2, 3, 4, 5, 6, 7, 8, and 9), and state engineer's permits (Wash. Ex. 10), and such regulated use continuously exhausted the entire flow of the stream in Oregon arising above the Red bridge.

Based upon economical and beneficial use, appropriations of such water have been consummated in Oregon; vested rights acquired, and a great and valuable development of the Oregon community has been made with notice to and the knowledge of the state of Washington and without protest or any claim of right by it or any of its citizens.

The whole of the finding must be construed. To pick out one clause or word for an objection and construe it without any relation to the rest of the findings would not be a true criterion. The conduct of the state of Washington measured by all the facts, of which this finding states a part, makes it inequitable for Washington to have any right in the water claimed. The doctrine of equality of right forbids the destruction of the Oregon development to supply Washington with a right to water which they have never had.

**Paragraph (3) on pages 64 to 66 of Washington's Brief.**

This paragraph charges the Master with having failed to give full recognition to the physical condition of the Tum-a-lum section of the stream and the rights of the Washington users to the use of the natural stream bed for conveyance of water.

The argument as usual cites but two small excerpts from pages 53 and 54 of the Master's Report and ignores the fact that these excerpts are but a small part of a review of facts extending from the bottom of page 53 to 58 of the Master's Report, and culminating in a conclusion expressed upon page 58 to the Report, as follows:

> "To permit quantities of water to flow past the Red bridge during the low water stages of the river is wasteful and uneconomic."

Counsel does not dispute the basis of fact cited in the pages of the Master's Report above referred to nor does he dispute the conclusion reached.

The factual basis cited by the Master is as follows:

From 1880 on, the Tum-a-lum river from the Nursery bridge to the McCoy bridge has been rendered dry

by the action of the Oregon irrigators in diverting the entire flow of the stream to the Little Walla Walla.

Washington's witness, Dr. Woodburn, admitted the stream bed was wasteful and evaded the question as to whether it would be economical to attempt to convey 22 c.f.s. of water through it during June, July, and August (Tr. of Test. p. 441).

Twenty-five c.f.s. of water turned over the dam at the Nursery bridge in 1928 did not reach the McCoy bridge in 48 hours (Or. Abst. 24).

On November 1, 1933, 21 c.f.s. were released at the Nursery bridge and on the following day the flow past the Nursery bridge was increased to 25 c.f.s.; yet in a 48-hour period the waters had only reached one-half mile below the Nursery bridge (Or. Abst. 54).

In 1928, 25 c.f.s. permitted to flow past the Red bridge for three or four days never reached the McCoy bridge (Or. Abst. 48).

In 1932, 20 c.f.s. were permitted to pass the bridge and did not cross the dry area (Wash. Nar. Test. 142).

The flow in the main stream at the state line continues even though the entire flow of the stream is diverted two and a half miles above at the Red bridge (Wash. Ex. 30, p. 12).

If 20 per cent of the the entire stream flow, when permitted to pass the Nursery bridge, will produce no water at the McCoy bridge, surely the Master's conclusion as to the wasteful nature of the stream is justified.

The Master's conclusion is supported by other evidence not referred to by him, to wit:

The bed of the river is "gravel and loose rock; cobble stones without soil content" for one and a half miles,

and "in the rocky stretch all water that comes down in the summer, sinks" (Or. Abst. 33 and 34).

"Just below railroad bridge about one-half mile the water would disappear. In that stretch, for a mile below the railroad bridge, water sinks more than it does down toward the McCoy bridge" (Or. Abs. 28).

A reference to Washington's Exhibit 18, page 66, shows that in 1933 water was permitted to flow past the dam at the Nursery bridge, as follows:

| | |
|---|---|
| October 31 | 19 c.f.s. |
| November 1 | 21 c.f.s. |
| November 2 | 25 c.f.s. |
| November 3 | 240 c.f.s. |

Yet page 70 of that exhibit shows no difference in the flow at the McCoy bridge until the flood of November 3.

> "From the apex of the alluvial fan at Milton down-stream to the McCoy bridge —— the water table sloped away from the Walla Walla river toward the northeast and the northwest in both June and August, 1933. Therefore the water in the alluvium was percolating away from the river." (Piper's Report, R. 129.) "Clearly the river is a losing stream in this reach." (Piper's Report, R. 130.) "Given the conical form of the water table defined by the contours of June and August, 1933, ground water in the Milton-Freewater segment would percolate northward and northwestward away from the apex of the fan and ultimately would reach the most remote parts of the segment in both Oregon and Washington unless it were sooner discharged." (Piper's Report, R. 130.)

Water sinking in the river channel at the Nursery bridge does not flow along under the stream, but

spreads out over an area extending 2½ miles westerly to the West Prong (Or. Abs. 70 and 71).

Water sinking in the river channel at a point midway between the Nursery bridge and the McCoy bridge does not become underflow of the river, but percolates outward through the alluvium over an area extending a mile westerly to the East Prong (Or. Abs. 70).

From a consideration of the last evidence referred to it is apparent that Washington's conclusion that water sinking in the streambed becomes underflow of the stream (hinted at but not definitely expressed on page 65 of their brief) is not borne out by the facts.

The wasteful character of the Tum-a-lum stream bed is strikingly illustrated by the photograph (Piper's Report, R. 106A).

Washington argues that the distributary channels on the fan are similar and wasteful. In a limited sense they are similar in that they run through and over loose gravel soil, but here their similarity ceases, because they are of much less capacity and have been silted so that their channels are less permeable. (Piper's Report, R. 130); (Or. Abs. 128.)

Their channels have been straightened and cleared (Or. Abs. 42 and 121). The courses of these streams do not shift while that of the Tum-a-lum does. These distributary channels (some so small one can step from bank to bank) are not to be compared with the Tum-a-lum bed of rocks, which varies from 150 to 1,500 feet in width (Master's Report, p. 64). The loss varies with the size of the channel (Or. Abs. 114).

The evidence above referred to shows the waste to be 100 per cent in the Tum-a-lum on quantities up to 25 c.f.s. of water.

The loss on the Crockett and Ford which, when running bank-full, only carry about 25 c.f.s. each (Wash. Nar. Test. p. 89), has been measured and determined at from 15 per cent to 20 per cent (Or. Abs. pp. 42, 48, 60 and 143).

As we understand it, the argument of Washington is that, despite the wasteful character of the stream, water should be taken from the irrigators in Oregon and permitted to run down the Tum-a-lum. 25 c.f.s. so turned down has disappeared and would entirely disappear before reaching Washington.

This 25 c.f.s. used on the gravel fan in Oregon where the average farm area is about seven acres, would irrigate 95 farms supporting 95 families.

To take this water from Oregon and permit it to run to waste in the Tum-a-lum would ruin 95 Oregon farms, deprive 95 Oregon families of support, and would benefit Washington nothing. It would work irreparable injury to Oregon, and farms already established, without corresponding, or any, benefit to Washington.

**Paragraph (4), pages 66 and 67, Washington's Brief.**

This paragraph attacks a part of the statement of the Master's Report setting forth the facts not only of complete diversion of water from the Tum-a-lum during the low-water period but also of non-return of that water to the channel of the Walla Walla river.

The Master's Report is amply supported by the evidence. No evidence to contradict these facts was offered by Washington.

This finding states the number of acres irrigated in Oregon in 1891 as shown by Stipulation No. 3 (R.

19); that the diversion of the waters of the Walla Walla river at the Red bridge was complete and continuous; that all the water was taken and that it did not return directly to the channel of the Walla Walla river through the Ford or Crockett branches which, in such a case, would have conducted any excess back to the main stream.

That the diversion was complete and continuous is established by many witnesses (Or. Abs. Burlingame, pp. 21–22; Forsythe, pp. 22–26; Elba Rogers, p. 28; Schwald, p. 32; Alta Rogers, p. 33; Fee, pp. 40–41; Roeder, p. 41; Perry, p. 47; Mason, p. 54; Wash. Nar. Test., Woodburn, p. 144).

That all of the water was taken can not be disputed. Many witnesses also testified that the Ford and Crockett branches were dry so as not to carry any water back to the main stream (Or. Abs., Elba Rogers, p. 31; Schwald, p. 33; Alta Rogers, p. 34; Roeder, p. 41; Perry, p. 48; Mason, p. 55). The facts were established beyond a question of a doubt.

The measurements cited by counsel were made on the Ford on September 30, 1933, and on the Crockett on December 10, 1933 (Wash. Nar. Test. p. 89). The irrigation season had closed. Most of the weirs were out (Or. Abs., Mason, p. 54). These measurements can not be taken as any evidence of the condition of the channel in June, July, August, and September prior to that time. Nor do such measurements dispute the testimony of witnesses that the Ford and Crockett branches were dry during the dry season and therefore no water returned through those channels to the main stream.

Whether or not those channels of the Ford and Crockett branches could be used to send water down to

Washington is not involved in this case. The fact is, they never were so used.

**Paragraph (5), page 67, Washington's Brief.**

This paragraph contends that the effect of the Master's Finding is to give Mill creek alone to the state of Washington and the balance of the stream system to Oregon. Counsel assumes that the flow of Mill creek is substantially one-third of the available water supply during the months of July, August, and September. Complainant has abandoned all claim for water in all other months. However, the water supply in other months does have a bearing and relationship upon the use of water in the dry season, just as the kind of crops and all other irrigation conditions affect the use of water.

No consideration has been taken of the Touchet, Pine creek, or Mud creek, which are tributaries taken out of this case by stipulation. Besides these, there are Russel creek, Cottonwood creek, Stone creek, Doan creek, the zone of springs and the spring branches around the Mill creek fan, the springs and the spring branches on the Washington side of the state line, and the water flowing across the state line from Oregon to Washington all to be added to the flow of Mill creek.

In investigating the question of the water supply of each state, we are embarrassed by the woeful lack of measurements of any of the streams or spring branches in Washington. A reference to Washington Exhibit 18 shows that in Oregon measurements began on the Walla Walla river in 1903, on the Hudson Bay ditch in 1906, and while this suit has been in progress detailed measurements were maintained at the state

line on all Oregon streams and canals that might be material, and on about 300 wells.

On the other hand, Complainant, who has the burden of proof of showing its necessities and the amount of water it requires from the Oregon side of the stream basin, furnishes a very meager and incomplete record.

Washington's deficiency, if any, should not be guessed at. She should have records to show not only what deficiency she has suffered but also the amount of such deficiency.

Page 166 of Washington's Exhibit 18 shows measurements on Mill creek for 1932. The city of Walla Walla takes water above the place of measurement and any excess diverted is bypassed to the stream below the point of measurement.

Page 168 of the Exhibit shows the city's consumption for August and September, 1933, which was 1,423 acre-feet for August, and 1,320 acre-feet for September. July being a hot month would surely show a consumption of water as great as August. A consumption of 1,400 acre-feet would surely be conservative.

Not having any measurements for 1932, we are compelled to assume the city's consumption, which we do, using the 1933 measurement as a basis, of 1,400 acre-feet for July, 1,423 acre-feet for August, and 1,320 acre-feet for September. On August 13 to 16, 1932, one measurement was taken on 22 springs and spring branches showing a flow of 19.72 c.f.s. (Wash. Ex. 18, p. 217). As this measurement was made at the low time of year, we are assuming that their flow was constant at that amount throughout July, August, and September. Not having a 1932 measurement on the

McEvoy spring branch we are assuming the 1933 flow as also correct for 1932.

With these assumptions, and taking what meager measurements we have—leaving out Pine creek, Mud creek (in Oregon) and Touchet river (in Washington), and not considering seepage losses or the great number of springs in the spring zones of the Milton fan and the spring zones of the Mill creek fan, which were not measured and of which we have no record—in the year 1932 Washington had at least a water supply as shown by the following table:

## TABLE OF WASHINGTON'S WATER SUPPLY IN 1932.

| Name of Stream | Acre-feet In July | Acre-feet In August | Acre-feet In September | Reference to Record |
|---|---|---|---|---|
| Mill creek | 2,790 | 1,900 | 2,040 | Wash. Ex. 18, 166 |
| City of Walla Walla (1933 measurement) | 1,400 | 1,423 | 1,320 | Wash. Ex. 12, Report of Referee, page 2. Wash. Ex. 18, 168 |
| Reser creek | 19 | 1 | ..... | Wash. Ex. 18, 176 |
| Russell creek | 22 | ..... | ..... | Wash. Ex. 18, 177 |
| McEvoy spring branch (1933 measurement) | 296 | 201 | 217 | Wash. Ex. 18, 180 |
| 22 miscellaneous springs | 1,240 | 1,240 | 1,200 | Wash. Ex. 18, 217–218 |
| Water received state line Walla Walla river | 485 | 327 | 270 | Wash. Ex. 18, 77 |
| Kelly ditch | 5 | 5 | 2 | Wash. Ex. 18, 80 |
| Wendler, Eiffert and Dyer ditches | 184 | 178 | 204 | Wash. Ex. 18, 82 |
| Big Spring creek | 433 | 199 | 308 | Wash. Ex. 18, 86 |
| Hoffman ditch | 54 | 47 | 64 | Wash. Ex. 18, 88 |
| East Little Walla Walla | 132 | 48 | 213 | Wash. Ex. 18, 90 |
| Clark-Overby ditches | 7 | 10 | 12 | Wash. Ex. 18, 93 |
| Wells ditch | 45 | 1 | ..... | Wash. Ex. 18, 95 |
| Knopf ditch | 4 | 3 | ..... | Wash. Ex. 18, 97 |
| West Little Walla Walla | 255 | 146 | 146 | Wash. Ex. 18, 100 |
| Totals | 7,371 | 5,729 | 5,996 | |

**Grand total, 19,096 acre-feet.**

In the above tabulation, measurements of Yellowhawk and Garrison creeks, distributaries of Mill creek, are not counted. Neither is the measurement on the East Little Walla Walla stream near its mouth counted, because we took its measurement at the state line. However, the measurements on the East Little Walla Walla at its mouth, three miles from the state line, show a run-off in July of 682 acre-feet, in August of 286 acre-feet, and in September of 904 acre-feet (Wash. Ex. 18, p. 181), as against 132 and 48 and 213 acre-feet in those respective months at the state line. This shows an increase in addition to water used for irrigation of 550, and 238, and 691 acre-feet respectively.

In Oregon the water supply from streams is gauged by Stations No. 215 and No. 216 on the Walla Walla river (Wash. Ex. 18, pp. 58 and 62), which show for the year 1932 a run-off for July of 7,645 acre-feet, for August 5,931 acre-feet, and for September 5,972 acre-feet, or a grand total of 19,548 acre-feet. Comparing this with the Washington run-off of 19,096 acre-feet a difference is shown in the water supply of less than 500 acre-feet, or a flow of less than three c.f.s. during the three-month period.

Considering the incompleteness of the Washington records on its water supply, and the fact that the streams passing from Oregon to Washington are gaining streams in Washington (Or. Abs., Piper 74, R. 130; Wash. Ex. 18, pp. 58, 62, 70, 77), it is safer to assume that Washington's water supply is now greater than Oregon's than to take counsel's assumption that it is only one-third to Oregon's two-thirds of the water supply. Since counsel for Washington ignores so many sources of water supply in his calculations of a division of one-third and two-thirds, no decision in this case could be safely based upon it.

**Paragraph (6), page 67, Washington's Brief.**

This paragraph merely states Washington's conclusion that in determining the rights of the two states the court should give consideration to certain alleged losses in natural stream channels above Milton.

The canyon, where the river runs above Milton, is narrow, steep, and with steep rock walls, floored with basaltic rock covered with a thin layer of highly permeable soils (Or. Abs. Harding, p. 124; Mason, pp. 52 and 53; Perry, p. 48) (Wash. Ex. 15) (Piper's Report, R. 82). The irrigated land lies close to the stream (Or. Abs. Mason, p. 53).

Washington offered no evidence showing or tending to show what, if any, amount of the water of the stream was lost by the use of the channels.

Oregon conducted experiments which showed that the water diverted, and, not used up by plant life or evaporation, immediately returned to the stream (Or. Abs. Mason, pp. 52 and 53; Perry, p. 48).

The use of these natural channels could have no appreciable effect on the stream system.

The farms are so small in area, and the river so changing through sudden floods and freshets, that no farmer could go to the expense of constructing permanent diversion works or canals strong enough to withstand the stream (Or. Abs. Mason, p. 53).

One and one-half c.f.s. seeping under the dam and two c.f.s. turned in to augment it supplied all of the up-river users because of prompt percolation back to the stream (Or. Abs. Perry, p. 48). The matter covered by the exception is trifling.

**Paragraph (7), page 68, Washington's Brief.**

This paragraph is devoted to a statement of Washington's contention that rights in Oregon are not vested beyond the amount that could be beneficially used (which is undoubtedly true), and to a claim that because the state engineer's office in Oregon has adopted a rule limiting all permits for the use of water to one-half miner's inch per acre, this shows the state engineer to have officially determined that one-half miner's inch per acre is the maximum amount that can be beneficially used.

The state engineer's rule is not an official determination and, if it were, would be entitled to no weight because Washington in its statement of issues on duty of water (R. 49 and 50) concedes that amounts as high as one miner's inch per acre are required for most of the land on the gravel fan, and every witness (farmer and expert) testified that more than one-half miner's inch per acre was required for most of the land.

Since counsel discusses Duty of Water later in his brief, we reserve our discussion until we answer that part of his brief.

**Paragraph (8), page 69, Washington's Brief.**

This paragraph complains that the Master has given no controlling weight to Oregon's practice of using waste water.

In the chief portion of the land on the gravel fan the land is underlaid by a strata of cement gravel comparatively impervious to water, covered with a layer of loose round gravel with almost no soil content and from eight to 33 feet in depth. On top of this loose

gravel is from one to three feet of gravel mixed with soil. (Or. Abs., Forsythe, p. 26; Elba Rogers, p. 29; Alta Rogers, p. 36; Roeder, p. 44; Perry, p. 50; Harding, p. 118; Powers, p. 97.)

In such soil, water is lost in deep percolation so that to irrigate it the farmer must get over the entire length of the furrows speedily with a large head of water and can not permit it to run over long periods of time (Or. Abs., Harding, p. 118; Rogers, pp. 38 and 39; Roeder, pp. 43 and 44). By this practice there is often some run-off at the end of the furrow which is picked up in a tail ditch and used on lower land instead of permitting it to waste by evaporation or deep percolation (Or. Abs., Rogers, p. 31; Alta Rogers, pp. 35 and 39; Roeder, p. 43); (Stip. 3; R. 14).

Harding says this practice is proper, reasonable and desirable (Or. Abs. p. 113). We submit that it is.

The water having been spread on the land and away from the stream could not be returned to the stream. The record does not show that any farm in the area is irrigated entirely by waste water. It is only used to supplement other sources of supply.

Washington's Exhibit 1, pages 167 to 198, shows that there are 159 users of water from the Milton ditch. Water to supply these rights is turned in at the head of the ditch. If on any day certain of the users fail to irrigate, water runs out the tail of the ditch, which is at a point almost a mile from any stream. To prevent the waste of this water some farmers constructed the Finis ditch, leading from the end of the Milton ditch to a point about two miles west. In the original 1912 Decree (Or. Ex. 31, pp. 151 and 152) and in the last Oregon Decree (Wash. Ex. 1, p. 74), there were

107.5 acres of land awarded the right to use such surplus water as might flow past the end of the Milton ditch. No water is diverted from the river for the purpose of supplying such surplus water, however, and no one of the places is entirely irrigated by such water. Each ranch is irrigated by a well and the surplus water merely supplements the supply from the well and reduces the amount pumped from the ground water.

No right of the state of Washington is violated by this use of surplus water from the Milton ditch or by the use of run-off water on lower lands. The practice in all cases prevents waste and does not increase the demand on the river.

Washington's witness says it is beneficially applied (Wash. Nar. Test., Chase, p. 16).

**Paragraph (9), pages 69 and 70, Washington's Brief.**

This paragraph attacks the finding of the Master as to wells. This finding is fully supported by the evidence. There is no testimony showing the use of water from wells on any other land than that of the owner.

Perry, the watermaster, testified that none of the irrigation wells furnish water for land other than that of the owner (Or. Abs. p. 49). Forsythe uses four wells (Or. Abs. p. 26). Elba Rogers uses one well (Or. Abs. p. 29). Alta Rogers rotates with all his water except the well (Or. Abs. p. 39). The water in these wells are percolating waters. Throughout his report Piper speaks of the ground water as "percolating". For example: "Ground water in the Milton-Freewater segment would percolate northward and northwestward." (R. p. 130.) Percolating water belongs to the owner of

the soil and he may make reasonable use of it upon his overlying lands.

The pumping from wells is used to supplement irrigation from the stream. In 1932 substantially 9,000 acre-feet was pumped from wells. Powers testified that the soil capacity of the gravelly soil within the root zone of the trees and crops was from two to two and one-half acre-inches. (Or. Abs. p. 97.) Carter (Or. Abs. p. 137) and Harding (Or. Abs. p. 118) say that it takes five to six acre-inches to give an acre of such ground one irrigation. The loss by deep percolation which then becomes a part of the ground water would be from two and one-half to four acre-inches out of each application of water. Harding says such loss is 50 per cent to 60 per cent (Or. Abs. p. 119). Out of 9,000 acre-feet pumped in 1932, by this deep percolation, 4,500 acre-feet to 5,400 acre-feet immediately went back and became a part of the ground water of the land. Piper testified that in wells near the river the water table rose and fell with the river (Or. Abs. p. 72). He further says (Or. Abs. pp. 72–73):

> "In some wells the table rises in response to the river, and the spreading of water over crop land near the wells causes a rise; rainfall also does. The water table falls as pumping becomes general and as the river declines. (R. 789.)
>
> "The effect of evaporation and heat would be slight; more than one of the agencies causing the table to fluctuate are active at the same time. Irrigation begins while there is water in the river. At the same time the river was rising and wells were rising with the river, water was spread for irrigation, and it is impossible to say what fraction of the total rise is due to the river and what to irrigation. The same is true of the fall. The pumps are turned on as the river declines, the depression of

the table, due to pumping begins soon after the water table begins to decline, because the freshet had passed, and as the peak of the wave of the water table had passed, and our data does not justify an estimate of the total fluctuation due to the several causes because they are working concurrently. (R. 790.)

"The depressions, or flattening of the water table from pumping, causes the water table to steepen to the south so that it moves northward more rapidly. It does not destroy the general form of the table. (R. 791.)

"A slightly greater portion of the total movement would be in the eastern half of the fan; a slightly greater portion. It would tend to cause more flow to the north than to the west—relatively."

The ground water supply and the effect of pumping upon it was studied by Mr. Piper, a geologist connected with the United States government. This study was made at the request of both parties. The result of his study is embodied in a report printed in the record (R. 72, et seq.). Plate 5 (R. 142A) prepared by him graphically shows the rise and fall of the ground water. On this plate, by various colors of pink, the ground water on the Milton fan is shown to have fallen from five to 25 feet during the irrigation season. At the state line, however, by colors in blue, the plate shows that the ground water rose five feet between the 20th of June, 1933, and the 29th day of August, 1933.

This territory in which the water table rose is the district from which Washington secures the only water supply she has ever had from Oregon during the dry season. The rising of the water table shows that pumping in Oregon does not lessen their supply. The gradient of the water table throughout the Milton-Freewater

segment is so steep that pumping and irrigation is not large enough to materially change the form of the water table. (R. 131.)

**Paragraph (10), page 71, Washington's Brief.**

This paragraph is apparently designed to express dissatisfaction with the Master's Report because he did not attempt to define, divide, and regulate the use of waters as between the two states during that season of the year when there is admittedly more than enough water in the stream to supply all rights and when water is running to waste into the Columbia river because there is no use for it (Or. Abs., Mason, pp. 52, 56, 57, 58; Wash. Nar. Test., Barney, p. 36).

The quoted portion of Oregon's contentions sufficiently discloses the fallacy of Washington's statement that Oregon claims Washington's use of any water to be by sufferance. It there appears that Oregon claims the prior right to use "all or so much" of the waters as is required to supply its rights. If "all" is required for this purpose, we claim it. If only part is required, we claim only "so much" as is required.

The last diversion from the Tum-a-lum river in Oregon is the Hudson Bay canal, and it is at this point that the Tum-a-lum river is dried up each year. The Milton-Freewater and Hudson Bay Irrigation Company has a right for 75 c.f.s. of water with a priority of February 16, 1903 (Wash. Ex. 1, p. 58). It is evident that whenever the flow of water in their canal is cut below 75 c.f.s. all of the Oregon rights with a priority of 1903 or later are entirely cut off and no water is being permitted to flow down the Tum-a-lum past the Nursery bridge.

When there is no shortage of water in Washington there is no regulation (Wash. Nar. Test., Barney, p. 36). It must follow that until the Washington watermaster begins to regulate the water each year, there is no shortage of water in Washington. The dates of the beginning of regulation are established by Washington Exhibit No. 27 (R. 203 to 207) as follows: 1929, June 1; 1930, June 10; 1931, May 26; 1932, June 27; 1933, July 9.

Washington Exhibit 18, pages 126 to 131, gives the measurements of the water flowing in the Hudson Bay canal for the corresponding years and proves that in each of the years the Hudson Bay Company was cut below its 75 c.f.s. long before there was any shortage or need of regulation in Washington.

It follows that there was more than enough water in Washington streams to supply all Washington rights for some time after the shortage in Oregon had compelled the cutting off of certain rights each year.

Since Washington has no need to draw upon the stream in Oregon until after there is not enough water to supply Oregon rights, and since the Master determined the Oregon rights had the prior claim, there was no necessity for his going further in defining the respective rights of the states during the season of surplus flow.

This argument is approved by the finding of the Master (Master's Report, p. 64), which is not excepted to.

**Paragraph (11), page 72, Washington's Brief.**

This paragraph complains that the Master's Report by implication approves the Oregon contention

to the effect that separate administration of the stream in Oregon has been such that the Oregon portion of the stream should be considered a separate stream.

Since Washington later in its brief argues the law on this question we will reserve our comments on this paragraph until that part of the brief is reached. However, we will point out that the statement, "Its only source of water supply is from the drainage of the North and South Forks, the main stream and small tributaries above the Oregon-Washington state line" is contrary to fact. As is demonstrated by Washington Exhibit 17 (R. 142C), Mill creek, Cottonwood creek, Reser creek, Russell creek, Yellowhawk creek, Stone creek, Garrison creek, Doan creek and many others all contribute to the supply of the stream in Washington.

**Paragraph (12), page 73, Washington's Brief.**

This paragraph is covered by our comment on paragraph (4) above.

**Paragraph (1), page 73, Washington's Brief.**

This paragraph complains that the Master in commenting upon the taking of water from Mill creek in Oregon by the city of Walla Walla did not state that it was not feasible to use that water in the irrigation of Oregon lands.

The comment of the Master was part of his finding:

> "It must be quite evident that the agricultural and industrial development of the area involved has proceeded without regard to state lines."

The fact that Oregon could not well use the water at that place for irrigation is unimportant.

The fact that Walla Walla takes from Oregon and uses a substantial amount of the water supply of the stream system is important. It bears upon the questions of equitable apportionment and equality of right.

**Paragraph (2), page 73, Washington's Brief.**

This paragraph complains that the Master in his report did not give a detailed review of the summer flow of the stream, but contented himself with expressing his finding that it was sporadic.

That the Master's conclusion is sustained by the record is shown by our argument above in answer to paragraph (1), pages 60 and 61 of Washington's brief.

**Paragraph (3), pages 73 and 74, Washington's Brief.**

This paragraph complains of the Master's Finding:

> "That during the period of high water, the Washington users do not need to impinge on the Oregon users."

This statement is explained by the Master in the paragraph following it on page 53 of his report.

The conclusion of the Master is supported, as is shown by our argument above in response to paragraph (10), page 7, Washington's brief.

The physical conditions there disclosed are such as to render counsel's fears groundless. There is water in the Washington streams sufficient to supply all of Washington's rights long after the shortage in Oregon has compelled the cutting off of certain rights.

**Paragraph (4), page 74, Washington's Brief.**

This paragraph attacks the Master's Report for failing to show the common ownership of the Hudson Bay ditch and the Gardena canal. The Hudson Bay water right was initiated in 1903 (Wash. Ex. 1, p. 55). By 1906, as much as 63.5 c.f.s. were diverted and used (Wash. Ex. 18, p. 120).

Burlingame, one of the organizers of the Gardena project, became interested in the Hudson Bay in 1911 (Or. Abs. 21) Work, looking towards the initiation of the Gardena rights, began in 1892. No great amount of water was diverted until after the building of the syphon in 1905 (R. 29). At the time Burlingame became interested in the Hudson Bay it was fully developed. Long before becoming so interested and at the time of the completion of the Gardena canal (1905) he discovered a shortage of water and went to see about it (Or. Abs. 21). The notice complained of by this paragraph began at that time and there was no protest.

Then in 1911 when he bought control of the Hudson Bay the right was acquiesced in and the complete diversion of the water was left as before. In fact the promoter of Gardena was so satisfied with the soundness of the Hudson Bay right, that in 1918 or 1919 a large amount of land irrigated from the Gardena canal was released from that project and thereafter irrigated from the Hudson Bay (R. 21). By so doing, the water right for that land was apparently changed from an 1892 right as given by Washington's decree to a 1903 right as given by the Oregon decree. The common ownership and management therefore did not affect the methods of diversion and came so late in the history of the development of the two projects that their rights are not affected thereby.

**Paragraph (5), pages 74 and 75, Washington's Brief.**

This paragraph complains of the Master's Finding on pages 65 and 66 of his Report that when the first protest was made by Washington the Gardena canal was receiving all and more of the water than it was entitled to, and that the Washington users were then unregulated and were not regulated until 48 days later.

On page 64 of his Report, the Master found:

> "The high water in the Washington tributaries to the Walla Walla river during the period of flush flow was sufficient to supply the demands of all of the Washigton users, and after the secondary rights on the Oregon side were all shut off, the Washington users were still unregulated and using such quantity of water as their necessities might dictate (Barney, Wash. Abs. p. 36; Wash. Ex. 37; Wash. Ex. 18, p. 11 et seq., p. 120 et seq.)"

This finding is not excepted to and shows that there was no necessity of the Master detailing anything with respect to the matters counsel suggests.

We again see the vice of lifting one sentence or paragraph from the Master's Report and criticizing it without reference to his other findings.

**Paragraph (6), pages 75 and 76, Washington's Brief.**

This paragraph complains that the Master in pointing out that the actions of the manager of the Gardena project in expending large sums of money in attempting to secure a water supply from sewage and wells without making any demand on Oregon for the release of any portion of the stream flow, and in noting that such conduct is inconsistent with Washington's present contention that she at all times has had and claimed a

right to take from Oregon a portion of the stream flow in Oregon during the low-water season, should have found that, while such expenditures were being made, a large part of the Gardena supply came from Oregon streams.

We have several times referred to the evidence showing that, from 1880 on, the entire flow of the stream was (during the dry season) diverted at the Red bridge and the Nursery bridge, and the Master so found (Master's Report, p. 54).

The only water from Oregon that has or could have supplied any part of the Gardena rights during the dry season was water rising at and below the inner zone of springs (see testimony quoted on page 57, Master's Report).

The Master's Report, page 58, does find that this spring flow goes to Washington. His report covers the very matter counsel claims to have been omitted.

**Paragraph (7), page 76 of Washington's Brief.**

This paragraph attacks the finding of the Master that after the recession of the high water none of the waters arising above the Red bridge were ever applied to a beneficial use in Washington. The exception claims a failure to consider the natural drainage. It complains that the Master's statement, taken alone, is too broad.

Complainant has failed to consider the balance of the finding where consideration is given to drainage. In the very next sentence to the part excepted to, the Master says:

> "The record further shows, as herein elsewhere cited, that quantities of water as much as 25 second-feet, half of the Gardena right after July 1st, turned

over the dam at the Red bridge completely sank into the river bed. There is no convincing evidence that water so sinking is again available for use to the Washington appropriators. There is no showing in this case that the diversion of the water at the Red bridge and its application to the irrigation of lands adjacent to the river is more detrimental to the users within the state of Washington than to have the same amount of water turned past the Red bridge to sink into the channel of the Tum-a-lum river between there and the McCoy bridge.

"The testimony of witness Piper, who, for the parties hereto made a study of the subject of underground water, would indicate that the use of the water on the lands to the west of the Tum-a-lum river does not remove the return water materially more to the west than would occur if the waters were permitted to sink in the channel of the Tum-a-lum river. (Or. Abs. pp. 74, 75.)"

The Master in his report therefore did consider the natural drainage and, as heretofore shown, his finding is amply supported by the testimony.

**Paragraph (8), pages 76 to 79, Washington's Brief.**

This paragraph complains that the Master after noting in his report that the Washington decree, although it awarded Gardena a priority of 1892 by express provisions, made the Gardena right inferior to certain rights having a later date of priority, concluded that the Washington court in so doing must have proceeded upon the theory of *U. S. v. Haga*, 276 Fed. 41.

Whether or not the Master's opinion as to the theory of law, in the mind of the Washington court, is correct, is unimportant in determining the rights of the contending states.

The important feature is that the court which decreed the Gardena priority made its right inferior to those of later priority.

Since the Washington court in its decree gives, as its reason for so limiting the Gardena (Walla Walla Irrigation Co.) right, the provisions of the decree in the case of *Lowden Co. et al. v. The Walla Walla Irrigation Company* (see language quoted page 77 Wash. brief) there is no basis of fact for counsel's suggestion that a dual system of rights (riparian and appropriation) caused the limitation.

*U. S. v. Haga*, 276 Fed. 41, quoted by the Master on page 73 of his report, presents an exact parallel to the situation of the two states with respect to the dry section of the Tum-a-lum and the Little Walla Walla distributary system, and is directly in point on that feature of the case.

**Paragraph (9), page 79, Washington's Brief.**

This paragraph also attacks the finding of the Master that Gardena has never used the waters of the Walla Walla river rising above the Red bridge during the low-water period and that during the high-water season their rights were adequately supplied by the Washington tributaries. Citation is made to testimony of witnesses for the state of Washington to the effect that the Gardena canal was never dry from 1917 to 1922, and that Gardena took its water from the main stream. The Gardena canal diverts water from the main stream in Washington just below the mouth of Yellowhawk creek. At all seasons there is no doubt but that there has been a supply of water in the main stream at that point. The water running at that point, not

supplied by Washington tributaries, was supplied from water rising in the zone of springs below the dry stretch of the Tum-a-lum and the distributaries of the Little Walla Walla. Streams arising from these springs are gaining streams in Washington. Irrigation may to some extent affect those springs, but did not create them (R. 139).

At no place does counsel cite any testimony that during the dry season any of the water running in the main stream at the point of diversion by the Gardena canal, rose above the Red bridge. The uncontradicted testimony of many witnesses, heretofore referred to, shows the extent of the dry stream beds at that time of year.

**Paragraph (10), pages 80 and 81, Washington's Brief.**

This paragraph complains that the Master's statement to the effect that the Washington court found the use of water in Oregon was a benefit to Washington users was broader than justified and should have been limited to a finding that only "early" use when the supply was "abundant" benefited Washington users.

Proper analysis of the paragraph quoted from the Referee's finding on pages 74 and 75 of the Master's Report shows that the Referee not only found the "early" use desirable but found that any use was a benefit by feeding the springs and streams which supply Washington users.

Just as the water applied to Oregon lands on the gravel belt during the "early" season enters the ground water and feeds the springs which supply water to Washington and thus benefits Washington, so does water applied to these lands in the late season.

**Paragraph (11), page 81, Washington's Brief.**

In this paragraph exception is taken to the finding of the Master that the intention of Gardena to appropriate water of the Walla Walla river rising above the Red bridge is not shown by the evidence or the conduct of the claimants.

Inferences can only be drawn from facts. When Gardena was promoted, no investigation of the water supply was made (Or. Abs. 21). When the canal was completed about 1905 interested parties began to go up the river looking for water to turn down (Or. Abs. 21). No water was turned down as a result of these visits, and no protest was made as to Oregon's use of it. In 1905, for Gardena, the Irrigation Company began spending money to increase their water supply. They investigated artesian wells, reservoir sites and the sewage water from the city of Walla Walla. During a series of years, they spent substantially $50,000 for that purpose. (Stip. 5; R. 23–45; Or. Abs. 18–23). People interested knew that Oregon was diverting the water. The state of Washington took charge of Gardena in 1917, and divided the land into class "A" (2,245 acres), and class "B" for the balance of the land (Wash. Nar. Test., p. 69). Priority in the distribution of water was given to class "A" lands. The irrigators rotated their use of water, and in summer watered only their perishable stuff of some 200 or 300 acres (Wash. Nar. Test., p. 59). During all this time, neither the state of Washington nor the irrigators interested made any protest against Oregon's use nor claim to any water rising above the Red bridge. Certainly the acts and conduct of complainant and her citizens substantiates the Master's conclusion.

**Paragraph (12), page 82, Washington's Brief.**

This paragraph complains of an alleged "implication" that might be given a sentence from the Master's Report.

One of Washington's chief grounds of complaint was Oregon's use of large quantities of water in irrigating No. 3 lands on the gravel fan.

These lands appear on Washington's Exhibit 15, colored in orange. A glance at this exhibit shows soil of this class to lie in both Oregon and Washington.

Oregon offered a mass of testimony to show that the use of a flow of 1½ miner's inches of water to the acre was required to successfully irrigate lands of this class. The testimony was from farmers, irrigation experts, and soil experts, and covered the operation of test places on this identical class of soil.

Washington offered no witness who had ever successfully irrigated land of that class with a lesser amount of water than Oregon contended for—and this despite the fact that she had the identical type of soil within the area under investigation in this case.

The Master commented upon the failure to produce such evidence as "significant".

Counsel for Washington complains of this comment because the Washington duty of water was not under attack, and because a Washington witness, Larson, said that some such land in Washington was farmed. His conclusion and those of Oregon's witness, Humphrey (Or. Abs. p. 92), are at marked variance, and Larson's statement does not overcome the significance of Washington's failure, on this most important feature of her case, to call even one witness who had success-

fully irrigated such land with a lesser amount of water. Her's was the burden of proof. Having the same land in her own territory she could have produced such proof if it was a fact. She failed to do so. Truly it is "significant".

It is also significant that every practical farmer from Washington, with land even better than class 3, and who testified upon the subject, testified that after the Washington duty of water was fixed and enforced he had to change his crops, cut down the area of land irrigated, or entirely give up the irrigation of his land (Wash. Nar. Test., Hammer, pp. 24 and 25; Ross, p. 28; Williams, p. 33; Dill, p. 44; Cundiff, p. 46; Hastings, p. 47; Sams, p. 48; Danielson, p. 50).

**Paragraph (13), page 82, Washington's Brief.**

The Master's Finding (Master's R. 108–109) contains the statement that the water pumped from wells is used exclusively upon the tract of land upon which the well is located, and then states that if the Washington theory of the underground water being a part of the stream is adopted then the water user would have the right to recapture.

The state of Oregon, through its officials, the watermasters, have distributed the water to the water users on the Milton fan since 1911.

In *Ide v. U. S.*, 263 U. S. 497, cited by counsel, the United States was permitted to recapture seepage water for its irrigation. The same principle would apply here where the state of Oregon permits its irrigators to recapture seepage water which has once been used for irrigation.

The water in the wells rises with the beginning of irrigation (Or. Abs. pp. 29, 36). Well water is just as much irrigation water as is stream water. Its use, therefore, would be beneficial, economical, and a saving of waste. Oregon's claim to this water, as recognized by the Master, is based upon the use of percolating water upon the lands overlying it. The landowner finding the water there has the right to use it. (*Meyer v. Tacoma Light & Water Co.*, 8 Wash. 144, 35 P. 601.)

**Paragraph (1), pages 83 to 85, Washington's Brief.**

This paragraph complains that the Master's Report gives little attention to an alleged lack of regulation on the river above the canyon at Milton.

This part of the stream is regulated (Or. Abs. Mason, p. 52 and 53).

The same complaint appears in his paragraph (6), page 67, Washington's brief, and is covered by our argument in answer to that paragraph which shows that regulation or lack of regulation at that point is unimportant. Physical conditions are such that an excess diverted promptly re-enters the stream by percolation.

The matter merited no more attention than what was given it by the Master and could have no appreciable effect on the Washington rights.

**Paragraph (2), page 85, Washington's Brief.**

This paragraph objects because the Master gave no review of the evidence concerning an alleged waste of the water at the Milton ditch intake and the use of surplus water from the tail of the Milton ditch by picking it up in the Finis ditch.

In our answer to paragraph (8), pag 69, Washington's brief, we have heretofore discussed the Finis ditch situation and we will not repeat.

The rights under the Milton ditch are set out in Washington's Exhibit 1, pages 167 to 196. They range in priority from 1872 to 1892.

The original head of this ditch and its diversion works was at what was then the main stream channel at Thorne street in Milton (Or. Abs. Mason, p. 54) where its headgate now is.

Freshets changed the course of the main channel of the stream, but the Milton ditch (as was its right) continued to take its water at the same point in the stream by diverting a sufficient amount from the new to the old channel and constructing a flume where the old channel was too badly washed out to carry the flow (Or. Abs. Mason, p. 54). All the surplus water thus carried to their headgate is bypassed into the Miller flume and thus carried to the Little Walla Walla (Or. Abs. Mason, p. 54).

There is no showing that any substantial loss results from this practice.

An irrigator has a right to continue to take his water at the original point of diversion from the stream and to require that the stream flow "as it was wont to flow", for that purpose (Kinney on Irri. and Water Rights, 2d Ed. Vol. 2, p. 1520, § 864).

**Paragraph (3), page 85, Washington's Brief.**

This paragraph asserts that the flow of the streams in Washington in recent years had diminished, while in 1932 and 1933 the measurements showed an increase in Oregon over former years.

This is an attempt to use the guess of witnesses as to the flow in Washington as against the measurements in Oregon. Community improvements, road building, drainage ditches and general irrigation improvements affected the flow of streams at different points. Big spring branch and East Little Walla Walla were especially affected. The main highway between Milton and Walla Walla was impassable before the roadway was drained and paved. Tiling was placed through the center of the southwest quarter of Section 11, Twp. 6 North, Range 35 E.W.M. which drained the water supply of Big spring branch which runs into the East Little Walla Walla and conducted that water supply into the main Walla Walla about 80 rods distant (Or. Abs. Roeder, p. 45). This reduced the water supply of Ross, Hammer and German. Dr. Powers testified that he had observed the water supply of the Northwest over a period of years and that there is a general decrease in the water supply. We have had a period of dry years, according to hydrographic records (Or. Abs. p. 100).

Owing to the lack of measurements in Washington the variation in flow of streams for different years can not be compared. There are measurements for a number of years of the diversions of the Gardena canal (Wash. Ex. 18, pp. 11–21, incl.). These measurements show a variation of diversion according to the wet and dry years. In 1917, Gardena began its diversion in July with 65 c.f.s. which gradually decreased to 22.4 c.f.s. on July 31, and then to 18 c.f.s. on August 31, increasing to 32 c.f.s. the last of September. In 1918 it started at 33.2 c.f.s. and maintained almost a steady flow, ending in September with 25.1 c.f.s. In 1919, it began at 26.9 c.f.s., went down to 5.5

c.f.s. in August and ended in September with 22.6 c.f.s. In 1922, it began at 34.5 c.f.s., went down to 16.1 c.f.s. in August, and ended in September with 29.4 c.f.s.

In 1927, July started with 47 c.f.s. and was dry at the last of the month. In 1929, July started with 28 c.f.s. or more and was dry at the middle of the month. In 1930, July started at 40 c.f.s. and was dry on the 28th. 1931 started July at 41 c.f.s. and was dry on the 26th. In 1932, July started with 61 c.f.s., went down to 6.7 c.f.s. on August 8 and then increased to 16 c.f.s. on August 29 with the 30th dry. In 1933, July started with 94 c.f.s., decreased to 15 c.f.s. August 17, and then increased to 24 c.f.s. August 31 with September 1 dry.

In dry years the stream is lower in the dry season than in other years. The minimum flow should show those dry years.

The table given by counsel on pages 16 and 17 of his brief shows minimum flows in 1918 for July, 105 c.f.s.; August, 105 c.f.s.; and September, 108 c.f.s. In 1919 for July, 112 c.f.s.; August, 103 c.f.s.; and September, 112 c.f.s. The Gardena diversion was more in July and September, 1919, than in those months for 1918 and less in August. In 1922 the minimum flow was 127 c.f.s., 123 c.f.s., and 125 c.f.s., respectively, and Gardena had a corresponding increase in diversion. In 1927 the minimum flow for those months was 88 c.f.s., 80 c.f.s., and 97 c.f.s., respectively—a very dry year, and Gardena went dry in July. In 1929 the minimum flow was probably about 68 c.f.s. (Wash. Ex. 18, p. 46), and Gardena went dry July 15. In 1930 the minimum was 59 c.f.s., 67 c.f.s., and 67 c.f.s., respectively. Gardena went dry on July 29. In 1931 the minimum was 82 c.f.s., 80 c.f.s. and 80 c.f.s. respectively, and Gardena went dry on July 26. In 1932 the minimum

was 109 c.f.s., 97 c.f.s., and 97 c.f.s., respectively, and Gardena had 24 c.f.s. when it closed down the last day of August. In 1933 the minimum was 118 c.f.s., 108 c.f.s., and 109 c.f.s., respectively, and Gardena closed down the last day of August with 25 c.f.s.

From these measurements it appears that the water supply in Washington increased in 1932 and 1933 in spite of the oral testimony of witnesses to the contrary. The inference of Complainant is not founded on facts.

**Paragraph (4), pages 86 and 87, Washington's Brief.**

This paragraph complains that the Master's Report fails to give significance to the fact that after 1929 the user's of water on the Mill creek tributaries were compelled to surrender water for the benefit of Gardena.

On page 63 of his report the Master notes this very fact.

There is no testimony in the record to support counsel's statement that any decrease in the flow of streams across the state line was due to an increase in Oregon consumption.

There is no record of measurements to prove there was any such decrease—only testimony by some Washington partisans that in their opinion certain streams showed a smaller flow in recent years. At what point in Washington they determined the flow to be smaller does not appear. The decrease they observed may have been due to increased Washington consumption.

Stipulation No. 3 (R. 20 and 21) shows that on the West Prong, from 1917 to 1931, Oregon irrigated 51.25 acres additional, while in the same time and from the same stream Washington irrigated 137 additional

acres. There is no compilation in the record from which the increases on the other spring branches can be readily compared.

If there was a diminution of the flow in these spring branches it was probably due to our cycle of dry years (Or. Abs. Powers, 100).

At any rate, the one stipulation in the record covering the subject does not support counsel's assumption that an increased consumption in Oregon was the sole cause of any decrease in flow.

The Master properly confined his findings to proven facts.

**Paragraph 4), page 87, Washington's Brief.**

This paragraph suggests that instead of dismissing the cause this court should enter a decree incorporating the provisions of paragraph II (4) of Stipulation No. 2 as to Pine and Mud creeks (R. pp. 9 and 10).

Measurements on Pine creek at its mouth (Wash. Ex. 18, p. 202) show that at all times measurements were taken water was wasting into the Walla Walla after all rights in both states were supplied.

Measurements at the mouth of Mud creek (Wash. Ex. 18, p. 201) show the same situation there.

The record does not disclose and there never has been any trouble between the states over the waters of these streams.

We suggest the matter is not of such "serious magnitude" as to require this court to retain jurisdiction for the entry of a decree on a noncontroversial matter.

**Paragraph 5), page 87, Washington's Brief.**

This paragraph suggests that even though the Master was correct in his finding (Master's Report, pp. 67 to 72) that no sufficient diligence had been exercised so as to authorize the application of the doctrine of relation to the Gardena appropriation, under the Washington statute then in force, still it might have been possible that the appropriators were not proceeding under the statute. Counsel complains that the Master should have given fuller consideration to the character of the Gardena appropriation. He states that in an appropriation under the statute, the date of the right would be the date of the filing of the notice and that in the case of an appropriation, not under the statute, the priority would date from the beginning of construction. In this case the notice was filed and construction started in 1892.

The point is not important, however, because under either method diligence is requisite to the application of the doctrine and the appropriation can not be consummated and the doctrine invoked until the water appropriated has been actually applied to the land within a reasonable time.

In this case the Master found, first, that the appropriators had not acted with such diligence as to justify the application of the doctrine of relation; and, second, that they never had applied to the land any of the waters arising above the Red bridge in Oregon during the dry season and, therefore, had never consummated any appropriation of such water; and, third, that since for 12 years before 1892 no water arising above the Red bridge in Oregon had been permitted to flow down to Washington, this circumstance taken in connection

with the conduct of the appropriators, showed that they never intended to appropriate waters arising above the Red bridge and without intent to appropriate there could be no appropriation.

The matters set out from paragraph (6), page 89, to the heading "Jurisdiction" on page 91 of Washington's brief require no answer at this place in our brief.

## SUMMARY OF ARGUMENT.

Oregon concedes this court's jurisdiction over a controversy between states if it is of sufficient magnitude to warrant interference.

In this case, although Washington appears as a sovereign, its rights are so linked with and dependent on those of its water users as to be limited by any adverse rights heretofore acquired by Oregon or its citizens.

The rule of decision is "Equality of Right". The result of the decision—not the formula by which it is reached—is the chief consideration.

For more than 50 years Oregon, with Washington's knowledge and without protest by Washington, has so used the waters of the Walla Walla river as to entirely exhaust the surface flow of the stream during the dry season at the Red bridge five miles south of the state line. A large and valuable development is based on this use of water. Development in Washington has been made without the use of any water of the stream in Oregon save that arising in the springs in the area about two miles south of the state line, and not required by Oregon irrigators. This practice in division and use

of waters has grown up normally as the economical division and distribution of water on the lands where it can be most advantageously used. Because of the wasteful nature of the stream channels, water turned down from Oregon would not reach Washington, but would sink. To limit the long-established use of water in Oregon would materially injure Oregon users without compensating benefit to Washington users. Under Washington decrees, any water secured from Oregon would be used to irrigate 2,000 acres of undeveloped land in Gardena, and this is the true purpose of this suit. Oregon's present practice benefits Washington both economically and in water supply. Equality of right forbids interference with this practice.

Decrees in Washington, to which Oregon and its citizens were not parties, do not bind Oregon or this court and have no probative effect or evidentiary value in this proceeding.

The Gardena priority is limited by the Washington decrees to the natural supply of the stream at its point of diversion in 1892 and does not impinge on Oregon's right, then and now exercised, to divert the entire surface flow of the stream in Oregon during the dry season. If the Gardena appropriators' intention was to appropriate any of the waters flowing in the stream at the Red bridge in Oregon, such appropriation has never been consummated by application of any of said waters to beneficial use, although more than 40 years have elapsed. Lack of diligence in the prosecution of the Gardena development, and a complete change of intention on the part of the appropriators both as to means of conveyance and lands to be irrigated, prevent the application of the doctrine of relation to the Gardena appropriation, and limit the priorities of its

irrigators to the date of actual application of water to the lands.

Washington has failed to meet its burden of proof on the issue as to duty of water. The overwhelming weight of testimony by practical farmers and experts of unquestioned standing, and the test of actual experiment in measure and use of water on the land, show that Oregon's present use of water is economical and beneficial and can not be interfered with except at the cost of irreparable injury.

Oregon's irrigation from wells being confined to the overlying lands of the well owner, and not having been proven unreasonable in any instance, there is no basis in fact or law for any interference therewith.

The doctrines of prescription and estoppel are applicable and prevent granting Washington's prayer for relief.

## I.

## JURISDICTION

### 1) A Controversy Between States

We do not question the jurisdiction of the supreme court of the United States to determine a controversy between states.

The supreme court has said in various cases that the "Complainant State" brings its suit in a "quasi sovereign capacity", as "parens patriae, trustee, guardian, or representative" of that portion of its citizens whose rights are affected: *Kansas v. Colorado*, 206 U. S. 46, 99, 51 L. Ed. 956, 975; *North Dakota v. Minnesota*, 263 U. S. 365, 375, 376, 68 L. Ed. 342, 346.

This language does not mean that the rights in the waters of the stream are essentially different because a state appears as nominal complainant.

This court pointed out in the case of *Wyoming v. Colorado*, 259 U. S. 419, 468, 66 L. Ed. 999, 1015, that:

> "* * * Colorado answers that this is not a suit between private appropriators. This is true, but it does not follow that their situation and what has been accomplished by them for their respective states can be ignored. As respects Wyoming the welfare, prosperity and happiness of the people of the larger part of the Laramie valley, as also a large portion of the taxable resources of two counties, are dependent on the appropriations in that state. Thus the interests of the state are indissolubly linked with the rights of the appropriators. To the extent of the appropriation and use of the water in Colorado a like situation exists there. * * *"

While the same language is not used in the other interstate water cases, a reading of such cases will clearly show that the rights of the state depend upon the rights that its citizens have acquired in the use of water. The state itself has no water right. It appears only for the protection of such rights as its citizens have acquired.

So in this case all the state of Washington accomplishes by appearing as complainant is the protection of the rights of its irrigators. The Washington irrigators acquire no better right and stand in no better position by reason of the fact that the state appears as complainant; nor do irrigators in Oregon suffer loss of their water rights on that account.

## II.

## RULE OF DECISION

### Equality of Right.

*Kansas v. Colorado*, 206 U. S. 46, 51 L. Ed. 956, 27 S. Ct. 655, declared the proposition:

> "One cardinal rule, underlying all of the relations of the states to each other, is that of equality of right."

and made this rule the basis of decision in controversies between states.

The determination of the relative rights of contending states in respect to the use of streams flowing through them does not depend upon the same consideration and is not governed by the same rules of law that are applicable in such states for the solution of similar questions of private right. Mere technical rights are disregarded and the court considers not only "the pertinent laws of the contending states" but also "all other relevant facts": *Wyoming v. Colorado*, 259 U. S. 419, 465, 470; 66 L. Ed. 999, 1013, 1015; 42 S. Ct. 552. *Connecticut v. Massachusetts*, 282 U. S. 660, 670; 75 L. Ed. 602, 607; 51 S. Ct. 286.

In applying the doctrine of equality of right the court looks to the result of the decision and not the formula by which it is obtained: *New Jersey v. New York*, 283 U. S. 336, 342; 75 L. Ed. 1104, 1106; 51 S. Ct. 478.

The application of the doctrine to interstate water cases does not call for "equal division", or "relative use" of the waters of the interstate stream as between two states.

The difficulty lies not in stating the rule, but in applying it.

Washington, by the authorities cited in its brief, recognizes the existence of the rule. The controversy in this case is not over the basic rule of decision but rather over the application of the rule to the facts disclosed.

In *Kansas v. Colorado*, supra, and *Wyoming v. Colorado*, supra, one of the chief considerations of the court in applying the rule was the development which had been accomplished by the use of the water in dispute.

In both cases they considered the injury to this development which would result from an interference with the water supply, and contrasted this injury with the benefit that might be expected to result to the other state from such interference.

In *Kansas v. Colorado* the court considered the benefit which resulted to the lower state by the use of the water in the upper state both by increase of ground water supply through seepage, and by the development through trade and commerce with the irrigated district.

The court also considered that injury to a small portion of Kansas citizens and territory without injury to the state as a whole was not sufficient to call for action.

In both cases the court refused to let a mere technical right interfere with an accomplished development.

In both cases the court recognized that silent acquiescence in a development was a factor to be considered.

In *Wyoming v. Colorado* they concluded that, considering all relevant facts, equality of right would be reached by applying the doctrine of appropriation.

Because the doctrine of appropriation was applied in the Wyoming case, the state of Washington insists that the strict doctrine of appropriation, as applicable between individuals, is the rule which should guide the court in the decision of this case, despite the fact that Washington has made no showing which would bring the instant case within the conditions and circumstances which governed the decision in the Wyoming case.

The Walla Walla valley is one great community located partly in Washington and partly in Oregon. Its commerce, its social life, and its growth and development are indissolubly linked without regard to the state line. Advancement on either side of the state line is beneficial to the other.

Irrigation first began in Washington on the tributaries and has developed intensely with farms now averaging thereon about 17 acres. Development on the main stream came later, and with larger farms. This later development has caused this controversy to arise.

In Oregon irrigation began from the main stream and developed intensely with farms on the Milton fan averaging about seven acres, and in the whole community about 10 acres (Stipulation No. 3; R. 17 and 18).

The stream system is peculiar. The main stream has deposited a gravel fan (called herein the Milton fan) 12 to 20 feet thick at the mouth of the canyon

beginning at Milton, Oregon, and extending north and northwesterly for about four miles.

The Walla Walla river enters upon this fan at Milton, and is thereafter locally called the "Tum-a-lum" in Oregon. In passing over this fan the stream goes dry during the irrigation season and has gone dry every year since 1880.

At the point of entering upon this gravel fan the stream branches off into distributaries. The first is the Little Walla Walla, and further down on the fan the Little Walla Walla branches into the Ford and Crockett branches. These distributaries likewise have gone dry during the irrigation season for a like period of time.

At least since 1880 it has been the custom of farmers in the Milton community to use the Little Walla Walla and its distributaries as a distributing system for irrigating their farms, and for that purpose every year, by means of a dam, they have turned the waters of the main stream into the Little Walla Walla channel.

The gravel fan is coarse and loose in texture; exceedingly permeable, and conducive to a great amount of seepage. The dry stretches in the Tum-a-lum and the Little Walla Walla distributaries are caused partly by the natural seepage and stream loss, and partly by diversion for irrigation.

Along the outer rim of the Milton fan, springs break out. Water from these springs, increasing in its several courses, flows in a northerly direction into Washington, where it is used for irrigation.

In Washington, Mill creek, one of the tributaries of the Walla Walla river, has also deposited a gravel

fan at the mouth of its canyon, extending past the city of Walla Walla, with the same characteristics as the Milton fan in Oregon. Due to the same causes, Mill creek goes dry during the irrigation season at about Gose street in Walla Walla. Likewise, springs break out along the outer rim of the Mill creek fan furnishing water in lower Mill creek and in a number of other spring branches emptying into the Walla Walla river, which water is also used for irrigation.

The Master found that in Oregon from 1880 on, all of the surface flow in the stream during the dry season has been diverted and used in irrigation to the extent that the channel of the main stream for a distance of two miles and the channels of the Little Walla Walla system of distributaries have been rendered entirely dry (Master's Report, pp. 54, 55, 56 and 58). This finding is amply supported by the evidence (see argument, supra, pages 15–19, under the heading "Par. (2), pp. 61 to 64, Complaint's brief"; and pages 23–25, under the heading "Par. (4), pp. 66 and 67, Washington's brief".)

The Master found that this use of water was with the knowledge of many of the irrigators within the state of Washington (Master's Report 55 and 64), and this finding is supported by the evidence to which he refers.

He found (Master's Report 54, 62 and 63) that Washington had permitted this use of the entire surface flow of the stream in Oregon without interruption and without protest.

Stipulation No. 3, paragraphs III, IV, and V (R. 15 to 18), show an intensive and valuable development of the Oregon community.

This development is comparable with that described in *Kansas v. Colorado*, supra, which was one of the controlling factors in determining the "Equality of Right". Mr. Justice Brewer said, on page 109 of 206 U.S.:

> "These tables disclose a very marked development in the population, area of land cultivated, and amount of agricultural products. Whatever has been effective in bringing about this development is certainly entitled to recognition, and should not be wantonly or unnecessarily destroyed or interfered with. That this development is largely owing to irrigation is something of which from a consideration of the testimony there can be no reasonable doubt. It has been a prime factor in securing this result and before, at the instance of a sister state, this effective cause of Colorado's development is destroyed or materially interfered with, it should be clear that such sister state has not merely some technical right, but also a right with a corresponding benefit. * * *"

Since the pleadings admit, and the Master found (Master's Report, p. 110) that irrigation is necessary to agriculture, it is evident that a substantial interference with Oregon's practice would interfere with and destroy the Oregon development.

Stipulation No. 3 (R. 15 to 18) also shows a large development of the territory in Washington.

The Master found (Master's Report 74 and 73) that this development in Washington was without the use during the dry season of any of the waters rising above the Red bridge in Oregon.

He found, however (Master's Report 58 and 74), that water from the zone of springs in Oregon flows

down into Washington during the dry season. Washington's frequent reference in its brief to waters flowing across the state line from Oregon must be construed as referring to this spring water, since there is no evidence in the record that any of the up-river surface flow of the stream in Oregon was ever permitted to flow down to and across the state line during the dry season.

The situation is such that during any part of the year that there is sufficient water to supply all Oregon rights there is more than enough water in the Washington streams and tributaries to supply all Washington rights without drawing on the Oregon stream. (Master's Report, pp. 63 and 64; see also Argument, supra, pages 36–37, under heading: "Par. (10), page 71, Washington's brief".)

It is evident, therefore, that the entire development in Washington was made without the use of any of the surface flow of the stream in Oregon during the dry season.

The question is whether Oregon's irrigation practices—which have continued for 55 years with Washington's acquiescence and approval—shall now be interfered with and Oregon's development destroyed because of Washington's shortage of water due to natural causes and her own actions, and because of Washington's desire to develop an additional 2,000 acres under the Gardena priority.

Under the authority of *Kansas v. Colorado*, supra, it would not be in accord with the doctrine of "Equality of Right" to take from Oregon the water that has been the basis of her development in order to give to Washington that which she has never had or enjoyed and which has worked no part in her irrigation development to date.

Due to a cycle of dry years (Or. Abs. p. 100; Master's Report, p. 9; Complaint, p. 7; Ans. pp. 7 and 8), there has been a decrease in the flow of the stream during the last ten years. Although it is alleged in the complaint and admitted by the answer that this decrease in flow has been caused by a deficiency in rainfall, Washington now argues in its brief that the deficiency is due to an increased diversion and use of water on the Oregon side of the state line. The argument is without basis in the proof (see Argument, supra, pp. 50–54, under headings: "Par. (3), p. 85, Washington Brief", and "Par. (4), pp. 86 and 87, Washington Brief"), and the Master's Findings are to the contrary. No increase of diversions from the main stream in Oregon in recent years could have caused this diminution of flow, because all late rights in Oregon (1903 and later) on the main stream are cut off before there is any shortage or regulation in Washington in each year. (Master's Report, pp. 63, 64; see Argument, supra, pp. 36–37, under the heading "Par. (10), p. 71, Washington Brief"). The shortage to some Washington rights is the result of the enforcement of the Lowden decree, which was rendered prior to 1917 (Wash. Nar. Test. p. 69). The shortage to other Washington rights was caused by the enforcement started in 1929 of the present Washington decree (Wash. Ex. 12), and by artificial changes in natural conditions in Washington. (See Argument, supra, pp. 50–53, under heading: "Par. (3), p. 85, Washington Brief").

### Injury Without Benefit.

In *Kansas v. Colorado*, supra, the court in determining equality of right refused to inflict injury upon one state when there could be no corresponding benefit to the other.

The Master found (Master's Report, p. 113) that to limit the long-established use in Oregon would materially injure Oregon users without a compensating benefit to Washington users. The record further shows that quantities of water—as much as 25 c.f.s.—half of the Gardena right, after July 1, turned over the gates at the Red bridge completely sank into the river bed. There is no convincing evidence that water so sinking is again available for use to Washington appropriators. There is no showing in this case that the diversion of the water at the Red bridge and its application to the irrigation of lands adjacent to the river is more detrimental to the users within the state of Washington than to have the same amount of water turned past the Red bridge to sink into the channel of the Tum-a-lum river between there and the McCoy bridge (Master's Report, p. 72). The Master's Finding is amply supported by the evidence. (See Argument, supra, pp. 19–23 under heading "Par. (3), on pp. 64 to 66, Washington Brief").

Quantities of water amounting to as much as 25 c.f.s. turned over the dam at the Nursery bridge did not reach the McCoy bridge within three or four days. Such a quantity of water applied on the Milton fan, where the average farm area is about seven acres, would irrigate 95 farms and support 95 families. To take this amount of water away from Oregon would ruin 95 Oregon farms and render 95 Oregon families without support and avail Washington nothing. Oregon would suffer an irreparable injury to remove farms already established, without a corresponding or any benefit to Washington.

**Benefit to Washington from Oregon Irrigation.**

In determining equality of right as between Kansas and Colorado, Mr. Justice Brewer, at pages 100 and 101, 206 U. S., said:

"* * * But we are justified in looking at the question not narrowly and solely as to the amount of the flow in the channel of the Arkansas river, inquiring merely whether any portion thereof is appropriated by Colorado, but we may properly consider what, in case a portion of that flow is appropriated by Colorado, are the effects of such appropriation upon Kansas territory. For instance, if there be many thousands of acres in Colorado destitute of vegetation, which, by the taking of water from the Arkansas river, and in no other way, can be made valuable as arable lands producing an abundance of vegetable growth, and this transformation of desert land has the effect, through percolation of water in the soil, or in any other way, of giving to Kansas territory, although not in the Arkansas valley, a benefit from water as great as that which would inure from keeping the flow of the Arkansas in its channel undiminished, then we may rightfully regard the usefulness to Colorado as justifying its action, although the locality of the benefit from the flow of the Arkansas through Kansas has territorially changed." * * *

Stipulation No. 3, paragraph 5 (R. 18), shows the Walla Walla population to be 15,976. The stipulation, paragraph 5 (R. 17), shows the total urban population in the related area in Oregon to be 2,308. The map (Wash.'s Ex. 17) shows the close proximity of the city of Walla Walla to the related lands in Oregon.

The Master found:

"The city of Walla Walla was the largest community to grow out of the productivity of the com-

bined area. The industries were largely centered there, and the profits accruing from the interchange of raw materials for merchandise built up and developed that city." (Master's Report, p. 52.)

It is a matter of such common knowledge and experience as to be the subject of judicial notice that cities benefit from the settlement and development of the surrounding territory, and that the larger cities benefit much more in proportion than the country towns. That this is true is shown by the size of Walla Walla as compared to the total urban population of Oregon in the related territory, and by the number of industries developed in Washington, many of which must necessarily draw custom from the Oregon side. Such benefit can not be exactly measured, but, to that extent, whatever it be, Walla Walla and, through it, the State of Washington, has benefited from the intense cultivation and close settlement of the Oregon irrigated lands.

Because of the permeable nature of the gravel soil upon which the main body of the Oregon irrigated land lies, there is a prompt loss by deep percolation from the amount of water used in irrigation. The water so lost enters the ground water immediately, and this ground water supplies the spring branches which rise at the fringe of the gravel fan.

The Master found (Master's Report, p. 74) that these springs rose and fell with irrigation. He found (Master's Report, p. 111) that these springs were fed from irrigation. Since he found, as heretofore shown in argument, that no portion of the surface flow of the stream in Oregon from above the red bridge was ever used during the dry season for Washington irrigation, it is evident that these springs furnish the dependable summer supply of water from Oregon which

is available for Washington's irrigation. (See Statement, supra, pages 5–7, under heading "(b) Stream System").

The uncontradicted testimony shows (Oregon Abs., Piper, pp. 72, 73, and 74; Harding, p. 125; Roeder, p. 45; Washington's Ex. 16) that the irrigation of land upon the gravel fan in Oregon had the effect of increasing the ground water supply. Certainly, water percolating through the soil is subject to some lag as compared to water flowing in a surface stream. This lag necessarily makes the water available at a later and more critical period than if it had been permitted to flow down a surface stream.

The Master found (Report, pp. 74 and 75) that the Washington court in 1928, in the Ackermann case (Wash. Ex. 11; Referee's Report, p. 4), held that the irrigation in Oregon was a benefit to Washington because the springs were fed by water applied to lands in Oregon, and because it made the water available later in the irrigation season.

A similar situation received notice by this court in the case of *Kansas v. Colorado*, supra, as is indicated in the quotation given above.

The result is that the settlement, cultivation, and irrigation in Oregon are of great benefit to the state of Washington.

This is a matter that must be considered in determining equality of right.

**Purpose of Suit.**

Decisions of this court do not warrant injury to an established development in Oregon in order to extend irrigation in Washington.

The Master's Report finds (p. 60) that the Walla Walla Irrigation Company (Gardena) was awarded a right to irrigate 7,000 acres with priority as of 1892 (Stip. No. 5, R. 24). Stipulation No. 5 (R. 38) shows about 2,000 acres of this land not yet irrigated.

Any water taken from Oregon will, under the permission and provision of the Washington decree (Wash. Ex. 12, Decree, pp. 69 and 72), be used for the development of this additional acreage before any portion is surrendered to junior rights in Washington. (See Washington brief, p. 150, Par. (1).)

This taking of water to extend their irrigation is no different, in the eyes of equity, than if it were a proposed new diversion.

In *Wyoming v. Colorado*, supra, the rule of prior appropriation was applied to prevent a proposed new diversion from injuring established development.

It is not authority for the application of that rule so as to destroy the established development in Oregon in order to extend the area of irrigated land in Washington.

Under the doctrine of "Equality of Right", Washington can not prevail because: (1), the development in Oregon is long established; (2), Washington seeks to take from Oregon irrigators water they have always used, and Washington has never had; (3), to grant Washington's prayer would seriously and permanently injure Oregon, with no corresponding benefit to Washington; (4), the present use in Oregon is of actual benefit to Washington, both in prosperity and water supply; (5), because the purpose of the suit is to take from Oregon water needed to maintain a long estab-

lished development in order to irrigate lands in Washington now undeveloped.

## III.

## Specific Issues Tendered.

1) Priority of Gardena rights.

(1). Effect of state decrees.

The Master found that the decrees entered in one state had no binding effect upon persons who were not parties thereto (Master's Report, p. 50).

It is well established that a water user upon an interstate stream may go into the proper state or federal district court and seek such remedy as may be necessary to define and protect his rights as against a water user in another state without making either state a party, and his rights will be as fully protected as if it were a purely intrastate stream.

*Rickey v. Miller & Lux*, 218 U. S. 258, 54 L. Ed. 1032.
*Bean v. Morris*, 221 U. S. 485, 55 L. Ed. 821.
*Willey v. Decker*, (Wyo.) 73 Pac. 210, 226.
*Taylor v. Hulett*, (Ida.) 97 Pac. 37, 19 L. R. A. (N. S.) 535.
*Cline v. Stock*, (Neb.) 98 N. W. 454, 456.
*Conant v. Deep Creek*, (Utah) 66 Pac. 188.

On the other hand a state in its capacity as *parens patriae* may protect the rights of its citizens as against a neighboring state and its citizens by a suit in the supreme court of the United States (*Kansas v. Colorado*, supra). The state of Washington has chosen the latter course.

When a decree has been entered by this court apportioning the water between the two states, such a decree is final and conclusive upon the citizens of both states. It must necessarily follow that the citizens of each of these states are thereafter precluded from seeking any relief in either a state or federal court which would in any way conflict with the decree of this court. The powers of each state would thereafter be limited to the distribution of the waters apportioned to such state.

Inasmuch as each state has rendered decrees establishing the relative rights of its citizens as between themselves to the use of the waters of the stream, it is necessary to consider the effect of these decrees.

It will be noted that neither the state of Oregon nor its citizens were parties to the adjudication in the state of Washington, and neither the state of Washington nor its citizens were parties to the adjudication in Oregon. The full faith and credit provision of the constitution does not make the decisions in these adjudication cases in any way binding upon the states and individuals not parties to the suit.

The rule is that a judgment is not binding except as between parties and privies.

*Stacey v. Thrasher*, 6 How. 58, 12 L. Ed. 337.
*McLean v. Meek*, 18 How. 18, 15 L. Ed. 227.
*Spokane Etc. R. Co. v. Whitley*, 237 U. S. 487, 59 L. Ed. 1060, L. R. A. 1915F 736.
*Bagley v. Gen. Fire Ex. Co.*, 212 U. S. 477, 53 L. Ed. 605.
*Englehard v. Schroeder*, 278 Fed. 341; affirmed 258 U. S. 610, 66 L. Ed. 789.

See also 34 C. J. 984, section 1405, and note 36, citing cases from the United States supreme court and many cases from the circuit court of appeals.

This rule is in force in Washington (*Nebraska Invest Co. v. Corlett*, 172 Pac. 851; *Savage v. Tacoma*, 112 Pac. 78).

It is also in force in Oregon (*Savage v. McCorkle*, 17 Or. 49, 21 Pac. 444; *Carnes v. Dalton*, 56 Or. 596, 110 Pac. 170).

Neither the state of Washington nor any of its citizens can acquire any right as against the people of the state of Oregon by reason of the fact that a court of that state, in a proceeding to which neither the state of Oregon nor its citizens were parties, entered a decree which would be violative of Oregon rights.

Kinney states the rule as to water adjudications as follows:

> "As no one is bound by the judgment or decree unless they are made parties to the action, so also the rights of a person not a party to the waters of a stream can not be raised by a party to the action upon the ground that the stranger has a superior right to that of his opponent. In other words, the Court must determine the action as between the rights of the persons actually made parties and before it. In a leading case upon this subject it is said (Gutteries v. Albuquerque etc. Co., 188 U. S. 545, 47 L. Ed. 588, 23 Sup. Ct. Rep. 338) 'Neither do we think that the trial Court was called upon, at the instance of the defendants, entire strangers in every aspect to other appropriators, to inquire into and pass upon the question whether appropriators of water below the mouth of the proposed canal of appellee would be injured by the construction of the canal. The rights of such persons will not, of

course, be injuriously affected by the decree in this cause, and non constat but that they may yet intervene for their own protection, if they deem that the construction of the canal will be an invasion of their rights, or that they may be willing to forego objection to the construction of the canal.' " Kinney on Irr. & Water Rights, (2d Ed.) Vol. 3, Sec. 1542, p. 2773.

By reason of the fact that appropriators of water do not own the body of the water in a stream, but are only owners of a usufructuary right to the use thereof, there is a relation existing between the individual water users which must be considered in determining the extent of their rights.

The decree in Washington (Wash. Ex. 12) determined the relative rights of the citizens of the state of Washington. It did not take away any of the rights of the citizens of Oregon, nor attempt to determine the relation between the rights of the citizens of Oregon, and the rights of the citizens of Washington.

The decree in Oregon (Wash. Ex. 1) likewise determined the relative rights to the use of the water by the citizens of Oregon and in no way took away any of the rights of the citizens of Washington, nor attempted to determine any of the relative rights between any of the citizens of Oregon and the citizens of Washington.

It thus appears that the relative rights between the citizens of the state of Oregon and the citizens of the state of Washington have not been determined.

A comparison of Washington's Exhibit 12 with the Oregon decree (Wash. Ex. 1) is interesting. It shows

that on page 6 of the decree in Washington's Exhibit 12 there is a finding:

> "* * * That water rights were initiated on the date of appropriation.",

and that in the long tabulation of rights there is but one date of priority fixed for each tract of land; showing that Washington in each instance fixed the priority of the entire tract as of the date of first appropriation for the irrigation of any of it—and this regardless of the fact that the irrigator may have then only intended to irrigate part of the tract and that many years have passed before he formed any intention or made any effort to irrigate the remainder.

Oregon's decree (Wash.'s Ex. 1), however, shows many dates of priority on a tract. This shows that Oregon's policy was to fix as the priority for each portion of a tract the actual date of the irrigation of that portion.

The rules for determining priorities were entirely different in the two states. The relative priorities between the Washington irrigators and the Oregon irrigators depend upon the facts and are not to be determined by a comparison of decrees rendered under different rules of law, but must be determined by the application of one rule of law to the existing facts.

> "Neither state can legislate for or impose its own policy upon the other." Kansas v. Colorado, 206 U. S. 46–95.

The Washington decree can not be binding on Oregon, nor can it be held to have determined the relative priorities of the Washington irrigators as against the Oregon water users.

The cases cited by counsel do not extend the binding force of state decrees beyond the parties and their privies.

The Acts of Congress of July 6, 1866, and of July 9, 1870, do not and were not intended to make decrees adjudicating water rights binding upon a state and its citizens who were not parties to the proceedings.

## Doctrine of Relation Is Not Applicable to Gardena Appropriation.

Stipulation No. 5 (R. 23 to 45) covers somewhat the history of the Gardena project and water right.

The Master reviews the history in his report, pages 59 to 67.

Beginning with 1891 a succession of notices of intention to appropriate water were filed by different individuals, describing different streams as the source of supply and variously designating the proposed places of use. They appear in the record, pages 40 to 43, as Exhibits "B" to "E", inclusive, of Stipulation No. 5. They may be summarized:

| Exhibit No. | Date | Name of Stream | Name of Appropriator |
|---|---|---|---|
| D | Jul. 24, 1891 | Walla Walla river | Kirk, Boyer & Courtnay |
| B | Feb. 24, 1892 | Walla Walla river | Boyer, Kirk & Courtnay |
| E | Feb. 24, 1892 | Little Walla Walla river | Boyer, Kirk & Courtnay |
| C | Jul. 12, 1892 | Walla Walla river | Walla Walla Irr. Company |

Exhibit "D" describes the land to be irrigated as: "All the land contributory to said ditch or canal capable to being irrigated," and describes the course of the canal as extending from "the place where this notice is posted," "in a general N. W.'ly direction

passing near the mouth of the Touchet river, to a point on the Columbia river near the mouth of Snake river".

Exhibits "B" and "E" describe the place of use as "In Township Seven North of Ranges 33, 34 and 35, East of the Willamette Meridian, and in Township Six North, Ranges 33, 34, and 35, East of the Willamette Meridian."

Exhibit "C" described the place of use as lands "in the state of Washington also in the state of Oregon".

The statute governing appropriation of waters in force in the state of Washington in 1891 and 1892 is quoted in full by the Master in his report at pages 67 and 68.

Section (2), clause (2), requires the notice to state "the place or places, as near as may be, of intended use".

It is evident that none of these notices comply with this requirement.

Section (3) of the act as quoted requires that construction must be started within six months, and says:

> "* * * it being herein expressly provided that such works must be diligently and continuously prosecuted to completion, unless temporarily interrupted by the elements.
>
> "'(4) Vested Right—Forfeiture by NonCompliance. 'By a strict compliance with the above rules, the appropriator's right to the use of the water actually stored or diverted relates back to the time the notice was posted; but a failure to comply therewith deprives the appropriator of the right to the use of the water as against a subsequent appropriator who faithfully complies with the same.'"

Washington, in effect, concedes that there was no such diligence in completing this project and applying waters to beneficial use as to comply with the requirements of this statute and relate the right back to the date of the posting of notice, but contends that the company could have made an appropriation other than under the statute, in which event the statutory requirement of diligence would not be required, but only such diligence as was required by custom and usage, and that in such case the date of priority related to the beginning of construction.

In this case notice was posted and construction started in 1892, so it is of no importance to argue as to which of these events the right related.

Oregon's contention is that the Washington statute merely declared the rule governing diligence as established by custom and usage.

The rule with respect to the Doctrine of Relation is stated in Kinney on Irrigation and Water Rights (2d Ed.), pages 1297 to 1299, as follows:

> "* * * But the rule works both ways. There must not only be priority but there must be also reasonable diligence. If, therefore, there was unreasonable delay upon the part of the one who took the first step, in any of the proceedings necessary for the consummation of the right, and the rights of subsequent appropriators have ben properly instituted and the same have been followed up by a strict compliance with the law and with all due diligence, then, in that case, the rights of the parties are reversed. The right of relating back does not apply to the one who took the first step, and his right only begins with the actual consummation of his appropriation. Upon the other hand, the rights of those who started their first steps to make

the appropriation after the first party started and before the actual consummation of his right, become prior appropriators as against the rights of the first party, and take their places in the order of priority as between themselves. The one who started first then takes what water he may, subject to the rights of those who instituted their rights prior to the actual diversion and use by himself, and the doctrine of relation does not apply to his right, but it does to the rights of others.

"The beneficial effect of the rule of the doctrine of relation may thus be readily seen. It does not permit the water to remain under the claim of any person unless he applies it to some beneficial use or purpose within what the law deems a reasonable time, which as we have seen, depends upon the circumstances of each particular case. The title to the water does not vest in the appropriator at the time of his giving notice, but in order to acquire title, and to acquire the right of the application of the doctrine of relation, he must comply with all of the conditions subsequent required by the law. Therefore, upon the consummation of his appropriation and from that time only will the doctrine of relation apply, and then only when that consummation has been accomplished within a reasonable time.

"§ 751. Effect of Doctrine upon Appropriators who do not Comply with the Statute.—Where one attempting an appropriation of water fails to comply with the requirements of the statute, as, for example, in the matter of notice in those states requiring it, a valid appropriation may be made, but the effect is to preclude the appropriator from claiming, by the doctrine of relation, to the time when the first step was taken by him as against one who does comply with all the statutory provisions, and has prosecuted his works to completion in accordance therewith. The rule in a case of this kind is that the right of one who has not complied with

all of the statutory provisions dates only from the last act perfecting such an appropriation which is, in the majority of states, held to be the actual application of the water to some beneficial use."

This rule is quoted with approval in *State ex rel. Ham, etc. v. Supreme Court*, 126 Pac. 945 (Wash.).

It is also stated in effect by the supreme court of Washington in the case of *Still v. Palouse Irrigation & Power Co.*, supra.

The rule is recognized and enforced by the supreme court of Oregon: *Re Rights to Waters of Silvies River*, 115 Or. 27–61 (237 Pac. 322), and *Re Water Rights of Hood River*, 114 Or. 112–131 (227 Pac. 1065).

**There Was no Such Diligence in This Case as to Call for the Application of the Doctrine of Relation.**

Stipulation No. 5, page 3 (R. 25), discloses:

"* * * Mr. Burlingame performed the construction work for the company, using his own equipment and teams up to the time of the formation of the irrigation district, which succeeded to the rights of the company in 1928."

On page 4 (R. 25):

"* * * For the first three miles of the course of the canal from the river the soil conditions presented no serious difficulties in construction."

Continuing on pages 7 and 8 (R. 28):

"Water was first diverted from the river into the canal in the year 1893 for puddling purposes and turned out through the spillway into the West Little Walla Walla river. In the year 1898 water was first used for irrigati n when 68 acres along the line of the canal were irrigated. In 1899, 20 addi-

tional acres were irrigated, but these latter mentioned lands have since been abandoned. In 1901, 280 acres were irrigated in Oregon from the canal running from the divisional point in Lot 3 of Fractional Section 13, Twp. 6 N. R. 34 E. W. M. into Oregon, and between 1901 and 1918, 72 additional acres in Oregon were irrigated from the canal, but the irrigation of these lands was discontinued in 1919, when the company abandoned the operation of this canal. These lands are now irrigated from the Milton-Freewater and Hudson Bay ditch. In 1898, 68 acres were watered from the canal; in 1899, 20 acres additional were watered in Washington, which were later abandoned.

"In 1904, 193 acres were watered from the canal in Washington, including the 20 acres above mentioned as later abandoned."

E. C. Burlingame was the man in charge of the construction of the Gardena canal (Or. Abs. pp. 18 and 19).

His testimony shows that from the fall of 1893 to the fall of 1895 or spring of 1896 no construction work was done. From 1892 to 1896 (four years) but two and a half miles of ditch had been built.

In the spring of 1896 work upon the canal again ceased until the fall and winter of 1897. From the spring of 1898 to the summer of 1899 no work was done upon the canal. In 1901 no work whatsoever was done on the canal, and no work was done in 1902 until the month of August.

It is apparent from the testimony that there was no work upon this canal excepting in the fall, winter and spring when Burlingame was not working elsewhere. During the greater part of each year no work whatsoever was done upon the canal, and there were

at least six years of time in which no construction work was done.

The diary of the work done upon the ditch reads about as follows:

In August, 1892, one man and a team plowing and scraping.

Later in 1892 to the fall of 1893 (probably one year) construction work carried on.

Fall of 1893 one man left in charge, and no construction work whatsoever done for two years.

Fall of 1895 three or four men with teams worked to the spring of 1896.

Spring of 1896 Burlingame went to Montana, leaving one man in charge until the fall of 1897. (More than a year without work.)

Spring of 1898 Burlingame went to Wallace, Idaho, and was gone until the summer of 1899, and no work was done. (More than a year without work.)

Summer of 1899 and the spring of 1900 Burlingame worked an outfit on the ditch and on the Locher place and did his first irrigation.

Spring of 1900 Burlingame went to Hamilton, Washington, and no work was done.

In 1901 no work was done.

In 1902 until August no work was done.

In August, 1902, three fresnos and a foreman were put on to work until February, 1903, when Burlingame returned and took charge.

More than one-half of the time no work whatsoever was done.

The Master's findings (Report, p. 62) that the development of the project was "slow and intermittent" is warranted by the facts.

It can not be said that diligence, within the meaning of the law, was displayed. There was no diligence in leaving the work for two years from the fall of 1893 to the fall of 1895 with nothing done. There was no diligence in leaving the canal from the spring of 1896 to the fall of 1897 with no work done. There was no diligence in leaving the work from the spring of 1898 to the summer of 1899 with no work done. There was no diligence in leaving the canal from the spring of 1900 to August, 1902, with no work done.

The quoted portions of Sitpulation No. 5 show that in the first 10 years there were but 368 acres irrigated, and none prior to 1898. Page 9, of Stipulation No. 5, shows that contracts for only 368 acres were sold. Of this amount 300 acres were later abandoned. By 1904 contracts for 473 acres had been sold (300 of which were later abandoned).

A reference to pages 11 and 12 of Stipulation No. 3 shows a steady progress of irrigation in Oregon, and that in 1903 there were a total of 6,385.53 acres actually irrigated in Oregon from the Walla Walla river. This shows a steady and progressive development and appropriation in Oregon, and shows that, before there was any irrigation which amounted to anything from the Gardena canal, there was land developed in Oregon, homes established, and improvements made.

A reference to Washington's Exhibit 18, page 120, shows the earliest records of the Hudson Bay canal indicate that there was actual development of their 1903 water right, since their canal carried as high as 60 second-feet in February, 1906; 63.5 second-feet in March, 1906; and 63.5 second-feet in April of that year. A reference to the same exhibit (page 13), shows that

as late as 1917 was the first record of actual use of water in the Gardena canal.

We respectfully submit that the work done upon the Gardena canal was not such as to entitle them to invoke the doctrine of relation, and their priorities should run from the date of actual application of water to each tract, or, at the earliest, from the time in 1904 when they changed their intention as to the method of the construction of their ditch, and as to the land which should be irrigated under it, and then, for the first time, displayed diligence.

The restrictions we urge upon the application of the doctrine of relation have been recognized and applied by the United States supreme court:

> "It no doubt is true that the original promoters intended all along to make a large appropriation from the Laramie by some means, provided the requisite capital could be obtained, but this is an altogether inadequate basis for applying the doctrine of relation.
>
> "No separate appropriation was effected by what was done on the Upper Rawah ditch. The purpose to use it in connection with the Skyline was not carried out, but abandoned. This, as Link testified, was its 'principal' purpose. The purpose to make it an accessory of the large project was secondary and contingent. Therefore the work on it can not be taken as affecting or tolling back the priority of that project.
>
> "Actual work in making the tunnel diversion was begun as before shown, about the last of October, 1909. Thereafter it was prosecuted with much diligence and in 1911, when this suit was brought, it had been carried so nearly to a state of completion that the assumption reasonably may be indulged that, but for the suit, the appropriation soon would have

been perfected. We conclude that the appropriation should be accorded a priority by relation as of the latter part of October, 1909, when the work was begun.

"Applying a like rule to the Wyoming appropriations, several of them must be treated as relating to later dates, and therefore as being junior to that appropriation. Some of the projects in that state are founded on a plurality of appropriations, a part of which are senior and a part junior to that one. * * *" Wyoming v. Colorado, 259 U. S., 419–494 and 495.

Here is a controversy between states where diligence was inquired into and priorities fixed.

A similar inquiry here demonstrates that the Gardena priority is not earlier than 1904 for any land except the 68 acres of the Locher place.

The testimony of Burlingame shows (Or. Abs., p. 20) that he started to build the lateral running northwesterly (which is now the main canal) in 1904, and in the winter of 1903-1904 they decided to build the syphon. At that time they had constructed into Oregon from 15 to 18 miles to about the center of Section 19-6-34 (Or. Abs., p. 21). The canal was built to the Locher place in 1898 or 1899 (Or. Abs., p. 18). From this it appears that the Oregon lateral was built some time between 1898 and the winter of 1903 and 1904. The Oregon lateral (originally the main canal) was abandoned in 1919 (Or. Abs., p. 15; Stipulation No. 5). Having abandoned all the work performed between 1898 and 1904, such work "can not be taken as affecting or tolling back the priority" of the Gardena project, as is shown by the quoted language in the case of *Wyoming v. Colorado*, supra.

This state of facts clearly shows a lack of "strict compliance" with the provisions of section (3) of the Washington law of 1891 (Rem.-Bal., § 6318), which provides:

> "It being herein expressly provided that such works must be diligently and continuously prosecuted to completion unless temporarily interrupted by the elements * * *."

and bring it within section 4 of the act which provides:

> "But a failure to comply therewith deprives the appropriator of the right to the use of the water as against a subsequent appropriator who faithfully complies with the same." (Rem.-Bal., § 6319.)

and entirely deprives Gardena of the right to assert an 1892 priority.

It must be noted that the testimony does not disclose that the work was at any time "interrupted by the elements". Since this is the only provision for interruption of the work under the Washington statute, through which they claim their priority, the maxim "*expressio unius est exclusio alterius*" applies and no other excuse can be presented for the delay in the work.

Burlingame testified that owing to financial troubles he had to go slow in construction, and there was nothing else that caused the delay (Or. Abs., p. 21).

> "The mere lack of means with which to prosecute the work is not a sufficient excuse for delay. As was said in an early Nevada case: 'It would be a most dangerous doctrine to hold that ill health or pecuniary inability of a claimant of a water privilege will dispense with the necessity of actual appro-

priation within a reasonable time, or the diligence which is usually required in the prosecution of the work necessary for the purpose. We find no recognition of such doctrine in law. Nor are we disposed to adopt it as a rule to govern cases of this kind.' Again, as we said in an Oregon case: 'The authorities clearly show that the claimant's pecuniary condition is not an excuse; and, though the doctrine may seem harsh, it is nevertheless right.' The authorities all agree upon this proposition and there is no conflict upon this point. * * *" Kinney on Irr. and Water Rights, (2d Ed.) Vol. 2, § 739, p. 1276.

Since the company did not comply with the statute under which they were attempting to operate, and did not comply with the general rules respecting diligence in effecting the appropriation, it would clearly not be equitable or in accordance with the rule of "equality of right" to apply the doctrine of relation, as against the Oregon irrigators who, during all of the time, appropriated and used the waters, and by the use developed their community and their homes. To do so would return to a state of nature large acreages of land in the state of Oregon now intensly cultivated and dotted with homes, and would take a large amount of taxable property from the assessment rolls of the state. It would cause irreparable injury with no corresponding benefit to the state of Washington.

Under the circumstances, the lands in the Gardena project can have no earlier date of priority than of the date of the actual application of water to the land, which could not in any event be in advance of the dates of the water contracts as tabulated in Sitpulation No. 5.

Fixing the priorities as of the date of the sale of the contracts for the land would deprive no Washington

user of anything he ever had, and we believe is as close as the court could come to "equality of right".

The record demonstrates, and the Master found (R. p. 114) that none of the waters of the Walla Walla river rising above the Red bridge have ever been put to beneficial use during the irrigation season under the Gardena filing.

The authorities cited by the Master (R. pp. 69 to 72) and the quotation above from Kinney make it clear that the Doctrine of Relation is never called into application until an appropriation is consummated by the application of the water sought to be appropriated to a beneficial use.

If it were held that the Gardena project intended the appropriation of water from above the Red bridge in Oregon during the dry season, this intention has not been carried out by an application of that water to beneficial use, and therefore, as against the Oregon irrigators using water from above the Red bridge in Oregon during the dry season, the Doctrine of Relation can not apply in favor of the Gardena appropriation, and can not serve to now deprive the Oregon irrigators of water by relating the Gardena appropriation back to either the date of filing of notice or that of beginning of construction.

### Change of Intention

Where there is a change of intention, and water in place of being used upon the lands and through the ditch system originally contemplated, and for which the appropriation was made, is used upon other and additional lands, the rule is that the land irrigated under the subsequent intent and through a different system of ditches is under a new appropriation, and, in case

no new notice is posted, takes a date of priority as of the actual application of the water to the land.

*Williams v. Altnow*, 51 Or. 275–303, (95 P. 200).
*Whited v. Cavin*, 55 Or. 98–100, (105 P. 396).
*Seward v. Pacific Livestock Co.*, 49 Or. 157–161, (88 P. 963).
*In Re Waters of Umatilla River*, 88 Or. 376–395, (168 P. 922).
*Boyce v. Cupper*, 37 Or. 256–259, (61 P. 642).
*Porter v. Pettingill*, 57 Or. 247–250 and 251, (110 P. 393).
*Ison v. Sturgill*, 57 Or. 109–116–117, (109 P. 579).
*Nevada Ditch Co. v. Bennett*, 30 Or. 59–100, (45 P. 472).
*Andrews v. Donnelly*, 59 Or. 138–146 and 148, (116 P. 569).
*Simpson v. Bankofier*, 141 Or. 426–432, (16 P. (2d) 632).

The rule is recognized in Washington: *In re Crab Creek and Moses Lake*, 235 Pac. 37–42.

Oregon's Exhibit 33 was identified by Mr. Burlingame as a tracing of the original survey showing the intention of the parties at the time the Gardena project was begun. The exhibit shows that after the original drawing was made somebody added with pen and ink on the tracing some dots. Mr. Burlingame testified, and his testimony is uncontradicted, that the map as originally drawn (before the alteration) was the cor-

rect representation of the then plan of the Walla Walla Irrigation Company.

He identified Oregon's Exhibit 34 as a blue print of the original survey. His attention was directed to the ditch line marked "lateral" on this map. He stated that this was now the main canal, and that the line marked "main canal" upon the blue print indicated the route of the proposed main canal up until 1903. This exhibit had not been altered.

His attention was then called to Oregon's Exhibit 35, an old and dilapidated blue print, and to the words "Walla Walla Irrigation Company main canal", and the line drawn through the word "lateral", and the line in white ink from the line in section 5 and 6 through the present syphon, and on to the hill in Gardena. He testified that those were put on after the blue print was made. He referred to the word "south", written in white ink, and the line drawn through the word "main", and testified that they were alterations, and that without the alterations and as originally made the blue print delineated the original plan of the Walla Walla Irrigation Company's canal (Or. Abs., pp. 19, 20).

He testified that he made the change to the present plan of construction in 1903, when he discovered that the best land in Gardena could not be irrigated under the ditch as originally planned. He testified that they started to build the Gardena lateral in 1904; that at that time they had already constructed from 15 to 18 miles of canal into Oregon, under the original plan, to about the center of Section 19, Tp. 6 N., R. 34; had run water across Pine creek and actually irrigated land a mile east of that point, and that the Oregon canal, originally the main canal, was abandoned about

1918 or 1919. He testified that the survey of the original canal was carried out and stakes set through Gardena. The syphon was constructed in 1905.

Taking the Exhibits, Oregon 33, 34, and 35 as a basis, Oregon had a survey of the original canal made to ascertain what part of the Gardena lands could have been irrigated from that. The survey was made by W. E. O. Criger, a qualified engineer (Or. Abs., p. 51), who had followed the business for 33 years. He testified that he followed the line outlined on Exhibits 34 and 35 and found the old survey stakes along the whole length of the canal, and prepared a map; that upon the map the hatch marks show the land now irrigated through the Gardena canal which could not have been irrigated under the old ditch, as originally planned.

The conduct of the company in the construction of their ditch bears out the story of Mr. Burlingame (which is uncontradicted) and the exhibits introduced in evidence.

Stipulation No. 5, pages 7 and 8, shows that land was originally irrigated in Oregon in accordance with their old plan in 1901, and shows that the company abandoned the operation of that canal in 1919.

A check of the acreages shown upon Oregon's Exhibit 37 in hatch marks shows that there is now being irrigated through the Gardena canal a total of 1,676.70 acres which could not have been irrigated through the canal under the original plan. Although the testimony of Burlingame shows that the new intention and change of plan of construction was originated in 1903 or 1904, the company did not abandon their original intention until 1919, according to the stipulation, and Mr. Burlingame's testimony. Therefore, they were not simply

changing the place of use but conceived at that time an enlargement of their enterprise.

They filed no new appropriation, and no part of this land could have been irrigated before 1905. Under the authorities we have above cited, this constituted a new appropriation for the additional land, and in no event could the priority of this land be any earlier than the actual application of water, which could not have been earlier than 1905.

Since the benefit of the original appropriation had long been lost by lack of diligence, and since the company made no new appropriation at the time of the change of intention, their priority for that land, which could not have been irrigated under the original plan, must be in each instance the date of actual application of water to the lands, and in no event earlier than 1905.

### Limits of Gardena Appropriation

The rights of Gardena are measured by the beneficial use to which the water has been applied. The decrees in both Washington and Oregon have not attempted to fix an irrigation season for any irrigator. The time of use is left entirely to the demands of the user limited by the supply of water during the season of such demand. In the early part of the cropping period, nature supplies a flood run-off and each water user is permitted to take, without regulation, all of the water he desires (Wash. Nar. Test., Barney, p. 36; Or. Abs., Mason, p. 52, 56, 57, 58). As soon as the flood water subsides to or below the amount required to supply all rights, the water masters in both states begin to measure and regulate the stream. After the

water masters start measuring the water to the irrigators in Oregon, no water goes down the stream past the gravel fan, or through the Ford or Crockett branches to supply lower rights (Or. Abs., Mason, p. 58).

In Oregon, a water master has distributed the water of the Walla Walla river since 1913 (Or. Abs., Roeder, p. 41). Prior to that time the farmers helped themselves (Or. Abs., Forsythe, p. 27).

This distribution in Oregon was carried on without regard to the water users in the state of Washington, and water from the main Walla Walla river was only permitted to go down the main stream, Ford or Crockett branches at flood times, or at the season of the year when water was not used.

The condition of a dry stretch in the stream bed during the irrigation season, following the subsidence of the flood run-off, has existed since prior to the time of any material development in the state of Washington from the Walla Walla river. This condition was accepted as a general condition by the citizens of both Oregon and Washington. The Walla Walla Irrigation Company made the Gardena appropriation under these conditions. When in later years (1905) the company first began to look for wells as another source of supply, Mr. Burlingame realized that the water supply was short for his project. He went up the stream looking for hostile diverters (Or. Abs., Burlingame, p. 21) and he found none. He found the Tum-a-lum was dry between the Nursery bridge and the McCoy bridge. The Hudson Bay ditch, with a priority of 1903, was then in operation. As the manager and part owner of the Walla Walla Irrigation Company, he accepted the

condition then existing as a proper one. He needed water, looked for it, and permitted rights at least as late as 1903 to continue to take water, develop the community, and make use of such water as if they had a perfect right to do so.

These acts on the part of the Walla Walla Irrigation Company and its officers and agents disclose the intention of the parties in making their appropriation. These acts were long prior to this controversy, and are therefore entitled to great weight in determining the extent of the Gardena appropriation.

An appropriation may be limited by time as well as by amount.

In *Cache La Poudre v. Water Supply Co.*, 25 Colo. 161, 53 P. 331, 46 L. R. A. 175, 71 A. S. R. 131, the court says:

> "It seems, both upon principle and authority, that one may make a prior appropriation of a certain quantity of water to be enjoyed for a designated period of time, and another person an appropriation of a like quantity from the same source during another period, and, as to the same he is a prior appropriator himself. In other words there is no difference in principle between an appropriation measured by quantity and an appropriation measured by time."

This principle is enunciated by Kinney, Vol. 2 (2d Ed.), p. 1369 et seq.:

> "Where an appropriation has been made for the use of water for a particular time each year, the use of the appropriator will be limited to that time as against others asserting intervening rights."

It is the rule in Oregon.

*McPhee v. Kelsey*, 49 Or. 193, 201, 74 P. 401, 75 P. 713.
*Gardner v. Wright*, 49 Or. 609, 91 P. 286.
*Davis v. Chamberlain*, 51 Or. 304, 314, 98 P. 154.

The determining factors concerning the time of use include not only the general use that might be made of the water through their works and for the irrigation of their farms but also the intent of the use and the extent of the accustomed use.

The Master found (Master's Report p. 73) that in this case the Walla Walla river above the Red bridge contributed nothing to the main stream of the Walla Walla river after the stream has so receded that the flow of the river at the Red bridge is required for Oregon irrigators, and this condition has persisted since 1880. Furthermore (Master's Report p. 74), from 1892 to date those claiming the right to irrigate the Gardena tract have not applied any of the waters of the Walla Walla river arising above the Red bridge, during the low water period, to the irrigation of their lands. To this state of facts the Master (Master's Report p. 73) applied the principal set forth in the case of *U. S. v. Haga*, 276 Fed. 41, 43, where Judge Dietrich said:

> "(1) While, as already stated, the creek is constructively a tributary of the river, there is no showing that naturally, during the irrigation season, it actually makes any contribution to the river flow. There is a continuous channel, it is true, and there are doubtless short periods of unusual runoff in extraordinary seasons when there is a dis-

charge into the river; but the showing is insufficient to warrant a holding that the older diversions from the river have any substantial beneficial interest in the creek. An appropriator from a main channel can complain of a diversion from a 'tributary' only if and when such tributary would, if not interfered with, make a valuable contribution to the main stream.

"(2) In the second place, there is no warrant for finding that in normal seasons there is any natural flow in the creek later than June 1st, whereas up to about July 1st, and sometimes to a later date, there is an abundance of water in Boise river proper for the supplying of all rights therein, and hence the use of the creek by the defendant infringes no appropriator's right. It follows that plaintiff is not in any way injured by the defendant's diversion of the natural flow of the stream."

The reasons for this rule are clearly set out by Judge Hawley, in *Union Mill & Mining Co. v. Dangberg*, 81 Fed. 73, 118–119, as follows:

"* * * The quantity of water flowing in the Carson river is dependent, not only on the amount of snow which falls upon the mountains and in the canyons from which the river draws its supply, but also upon the time of the year when it falls, and further upon the amount of rain that comes in the spring or summer season of the year. The truth is that in some years, in every month thereof, there is more than water enough to meet and supply all the demands of the farmers and of the mill owners, and that in seasons of extra drought, for a few months in such years, there is scarcely enough for either. The real controversy between the respective parties is confined to a period of time ranging from July 1st to November 1st of each year, during which there is always liable to be an insufficient quantity of water flowing in

the river to enable the parties to make a reasonable use thereof both for irrigating and for milling purposes at the same time. The difficulty in arriving at a proper decree is apparent. The power of regulating or controlling the amount of rain or snow is beyond the jurisdiction of courts. No decree can be framed, which is based either upon riparian rights or of appropriation, or of both, which overlooks the uncertainty of the season, or the necessities of the various litigants, so as to meet the demands of justice and of right. It would be unjust and inequitable to compel the farmers in the valley to allow the water to run down to the mills when the quantity of water was wholly insufficient, to enable the complainant to run its mills with water power. There must be a beneficial use before any protection can be invoked. No provisions should be contained in the decree which would result in depriving one party of the use of the water when the other party could make no beneficial use of it. This would amount to a destruction, instead of a protection, of the rights of the parties." * * *

In the case of *Raymond v. Wimsette*, 31 Pac. 537, 540, the supreme court of Montana states:

"* * * Would it not, therefore, be unreasonable, and contrary to the theory of the law governing the subject under consideration, to hold that although experience of many years, and actual demonstration, confirm the proposition that none of the water in controversy could, if left in the stream, reach plaintiff's place of diversion, at a distant point below, still defendant should be restrained from the use thereof on the ground of plaintiff's prior claim to the water of said stream, at the place of his diversion? In our judgment, such holding would be entirely contrary to the spirit, if not to the letter, of the law; and there is not, even in the letter of the law, anything tending to such a doctrine.

But these observations should not be misconstrued or misapplied, so as to allow wrongful diversion or diminution of the waters of a stream, on the pretense that the water so diverted would be lost, unless it can be shown that by a long course of experience, and not as the occasional result of some unusually dry season, none of the waters in controversy would, if allowed to remain in the stream, reach the prior appropriator's point of diversion."

See also *Beaverhead Canal Co. v. Dillon E. L. & P. Co.*, 85 Pac. 880, 882.

In the case of *Hardy v. Beaver County Irr. Co.*, 65 Utah 28, 234 P. 524 at 529, the supreme court of Utah said:

"* * * What the trial court was called upon to decide was not what would be the equivalent of a full seasonal appropriation by the respondents if there were water available for their use during the entire summer season, since the record shows conclusively that they did not use any water after subsidence of the flood flow in June, but the extent of the appropriation which they had actually made by diversion and beneficial use of the water.

"4. It is elementary that an appropriation of water is limited by time as well as by amount; in other words, that an appropriator's right is limited by the quantity of water which he has beneficially used and the seasonal period during which he has used the same. Santa Paula v. Peralta, 113 Cal. 38, 45 P. 168; Cache Le Poudre v. Water Supply Co., 25 Colo. 161, 53 P. 333, 46 L. R. A. 175, 71 Am. St. Rep. 131; Ft. Lyon Co. v. Chew, 33 Colo. 392, 81 P. 39; Gardner v. Wright, 49 Or. 609, 91 P. 294. And in the case at bar the respondents' appropriations must be limited to the amount of water they can use beneficially during the period of the year when they have actually been accustomed to use the same.

"To the extent that the respondents were accustomed to irrigate their land within the limits of beneficial use during the period between the opening of the irrigation season, viz: the time when their crops are usually planted, or begin to germinate, and the end of the flood or highwater season in the spring, the respondent's rights are prior and paramount to those of appellant under its later appropriations; but as to the water flowing in the river during the remainder of the year, the rights of appellant are prior and superior to those of the respondents."

In the case at bar, since the record shows conclusively that the Gardena project did not use a full head of water after the subsidence of the flood flow in June, the court is not called upon to decide as against the state of Oregon what would be the equivalent of a full seasonal appropriation by that project, but the extent of the appropriation which Gardena had actually made by diversion and beneficial use of the water flowing from Oregon.

An examination of Washington's very scant records (Wash. Ex. 18, pp. 11 et seq.) on diversion of water by the Gardena canal indicates that in 1917 the diversion of water was 76 c.f.s. until the first day of July. Thereafter the amount of water diverted became gradually less to a minimum of about 15 c.f.s. In 1918 the dimunition of the water supply began about the 1st of June, in 1919 about the middle of June, in 1922 about the middle of June, in 1926 about the middle of May, in 1927 about the middle of June, in 1928 before the 9th of June, in 1929 before the 18th of June, in 1930 about the middle of June, in 1931 the last of May, in 1932 the last of June, and in 1933 just following the 4th of July.

An examination of the hydrographs of the Walla Walla river (Or. Ex. 41), and of the measurements (for the years in which we have measurements) of the Gardena canal (Wash. Ex. 18, pp. 37 et seq.), will show that the diminution of the flow of water in the Gardena canal has closely followed the passing of the flood stage of the Walla Walla river. The testimony is absolute and uncontradicted that during all these years the Walla Walla river, and the Crockett and Ford branches in Oregon, have had a dry stretch in their course beginning as early as April in some years, and at least by the 1st of July in all years.

The various spring branches rising below the gravel fan in Oregon and the springs rising in the main Walla Walla river furnish the only water received by Gardena after the channels of the Tum-a-lum, or the main Walla Walla river in Oregon, and the Ford and Crockett branches were turned dry.

The extent that water users on the Gardena tract were accustomed to irrigate their lands was governed by this water supply so used.

Lee H. Smith, a farmer on the Gardena project, after testifying that they had continual water service during the summer months further testified (Wash. Nar. Test., p. 59):

> "In the summer months of 1919 I had enough water in the summer months of June, July and August to get by with my perishable stuff. You see there usually wouldn't be over 200 or 300 acres, and by rotating you can get on smaller amounts. We irrigated our alfalfa in July in 1919. We usually have had water some in July for alfalfa; we wouldn't have any full head or big head, or anything like that, but we had water. * * *"

It will be noted that at this time Gardena was securing sewage water from the city of Walla Walla, which Burlingame said amounted to a maximum of 6½ c.f.s. (Or. Abs., Burlingame, p. 22). This amount of water on the basis of the Washington decree of water would have irrigated more than 700 acres of land. This amount would have more than taken care of their perishable crops of some 200 or 300 acres.

Again Smith says, on the same page:

> "I had plenty of water in 1922. I don't remember if we irrigated the alfalfa, but I know I had 20 acres of potatoes and I got water in August for those. I can't remember whether I irrigated my alfalfa in July of that year. The potatoes and corn and perishables would naturally have the preference in the distribution of water; I suppose they gave them the preference, I don't remember. There was no regulation; it was just the consent of the users."

From this it appears that the irrigators in Gardena adapted their crops and methods of farming to the water received, and in accordance with the limitation of their water supply.

After the abandonment of the sewage water in 1924, Gardena did not get water to irrigate the potatoes and perishables in July. Again Smith testified:

> "In 1927 I discontinued the late potatoes; I did not get to irrigate them in July. In 1930 I did not irrigate my potatoes in July."

The discontinuance of irrigation of their perishables in July by the irrigators in 1927 was after the sewage water had been abandoned, and prior to the time that the water master in Washington took charge of the stream and began to turn down water from the upper stream and tributaries in Washington, thereby

compelling the upper users to change their crops and methods of farming in order to adapt them to a shorter water supply. The Walla Walla Irrigation Company, as the appropriator and supplier of water during the time they were using the sewage water, had a special clause put into their water contracts as follows:

> "It is understood that sewage water from the City of Walla Walla is a part of said water supply."

The Irrigation Company, and the water users entering into contracts with it, thereby acknowledged that water supply from the Walla Walla river was not sufficient. They all knew that it was a flood water right.

In 1917, Hartvedt was sent to take charge of the Walla Walla Irrigation Company's irrigation system by the Public Service Commission of the state of Washington (Wash. Nar. Test., Hartvedt, p. 69).

It was understood that the lands that had been issued water contracts up to that time should have the preference in water (Wash. Nar. Test., p. 20). This land was called "Class A" land and amounted to 2,245 acres. All the balance of the land was considered as "Class B" land and, in the distribution of water as the water supply got short, were the first to be cut off. The class "B" land, therefore, was purely a flood water right, and was so recognized in their class "A" and class "B" contracts. Not only the irrigation company and the irrigators on the project but also the Public Service Commission of the state of Washington recognized that the water supply of their project was limited to a flood and excess water right.

These circumstances bring the Gardena appropriation squarely within the principles above mentioned in the case of *Hardy v. Beaver County Irr. Co.*, supra.

Washington at all times has recognized that the rights of Oregon were vested in accordance with those principles. Its Public Service Commission treated the Gardena right as a flood-water right, and divided its land into "A" and "B" classes of priority. Its courts in the Ackermann case recognized the benefits Washington was receiving from the irrigation in Oregon, and treated the right as only being entitled to a flow from the sources contributing to its supply in 1892. The irrigators and citizens of Washington by their conduct indicated that they were not entitled to any flow during the dry season from above the Red bridge in Oregon. Notwithstanding the fact that Washington contends that at all times Oregon has diverted water from the Walla Walla river to which its users, and particularly Gardena were entitled, the Walla Walla Irrigation Company, needing additional water, spent during 1910, 1911, and 1912 the sum of $56,451.18 to secure sewage water from the city of Walla Walla for the irrigation of its lands, and during the years 1905, 1909, 1910, 1911, 1913, 1924, and 1925, spent approximately $10,000 for wells in search of new supply. (Master's Report 66; Stip. No. 5; R. 28, 44 to 45).

The stipulation indicates that the sewer diversion was completed in 1911 and 1912.

A compilation of the contracts sold (appearing in Stip. No. 5; R. 29–37) shows that in 1912 contracts had been sold for 2,847.94 acres; in 1924, contracts had been sold for 4,980.26 acres. They had apparently added more than 2,000 acres during the period they were using this sewage water (thus increasing the demand upon the ditch), and the abandonment of the sewage caused them a loss of a portion of the water supply.

Furthermore, it is to be noted that the testimony of Clifford Riggs (Wash. Nar. Test. 52) and D. H. Smith (Wash. Nar. Test. 56), to the effect that the canal never went dry until the summer of 1924, coincides with the date of the abandonment of the sewage water from the city of Walla Walla.

The increase in acreage irrigated, along with the abandonment of a part of the water supply, obviously caused the ditch to go dry.

Our cycle of dry years doubtless contributed (Or. Abs. Powers, p. 100).

The expenditures made, as shown by the stipulation, for the purpose of securing additional water from sources other than the Walla Walla river, and their failure to demand water from Oregon, prove that in those years the irrigation company recognized and realized their water supply was insufficient, and that they had no demand on Oregon to supply it.

Inasmuch as the Gardena project has never had anything but a flood water right, it would be inequitable and unjust to permit them by this proceeding to increase that right to a full seasonal use by compelling water (which Washington never before used) to be turned down from Oregon, and thereby destroy the long established development in Oregon. The rule of "equality of right" would not permit it.

**Limitation on Gardena Priority by Washington Decree.**

In the Washington decree (Wash. Ex. 12, Decree pp. 69 to 72) the Washington court awarded to the Walla Walla Irrigation Company a right with priority as of 1892 to irrigate about 5,000 acres of land then under irrigation and to develop and irrigate additional land until the total of 7,000 acres was reached.

Neither Oregon nor its citizens and irrigators were parties to this decree, so, as shown by our argument, supra, the decree and the priority there fixed has no binding force or evidentiary value as against Oregon.

On pages 74 and 79 of that decree (Wash. Ex. 12) such limitations were placed upon the Gardena right as to make it inferior to both rights of an equal date of priority and rights of a junior date of priority taking water from the main stream.

On page 146 of that decree (Wash. Ex. 12) the decree made the Gardena priority inferior to all water rights (even though junior in priority) on Mill creek and Garrison creek by conveyance through Yellowhawk creek.

These limitations on the Gardena right are quoted and commented on in the Master's Report, pp. 60 to 62 and p. 73.

That a part of these limitations had been placed on the Gardena priority prior to 1917 by the Lowden decree is shown by the testimony of the Washington witness, Hartvedt, who testified (Wash. Nar. Test, p. 69) that in 1917 a part of his duties was to enforce the Lowden decree against Gardena.

These limitations imposed by the Washington courts by the Lowden decree and by the notes on pages 74 and 79 of the decree (Wash. Ex. 12) amount to judicial determinations that the priority of 1892 assigned to Gardena is not a true date of priority, even against those diverting from the Walla Walla river in Washington below the Gardena appropriation.

The limitation on page 146 of the decree (Wash. Ex. 12) is a judicial determination by the Washington court that the priority of 1892 does not run against

appropriators on Mill creek and Garrison creek because in 1892 these streams contributed nothing to the supply of the stream at the Gardena point of diversion during the dry season, and only contributed during the high water season by conveyance through Yellowhawk creek, a distributary of Mill creek.

It is exactly in line with the doctrine of *U. S. v. Haga*, 276 Fed. 41, cited and quoted by the Master on page 73 of his report.

It has the effect of limiting the Gardena right to such waters as flowed at its point of diversion in 1892.

Since evidence, often cited in previous portions of our brief, and the Master's Report (pp. 54, 55, 58, 63, 68, 72, 73, 110, 112, 113 and 114), establish conclusively that from 1880 on no part of the water flowing in the stream above the Red bridge in Oregon was ever permitted to flow down the stream channel or the distributary channels to Washington during the dry season, but that the water flowing into Washington from Oregon during the dry season was limited to that rising in the inner and intermediate zone of springs (Master's Report, p. 58), it is clear that the stream in Oregon above the Red bridge was not, in 1892, contributing anything to the stream supply at Gardena's point of diversion during the dry season.

The application in this case of the same limitation on the Gardena right, with respect to the Oregon diversions from the stream at and above the Nursery bridge, as the Washington court placed upon that right with respect to Mill creek and Garrison creek rights, is called for by an exactly similar situation.

The application of such a limitation will dispose of one of the main issues in this case.

The conduct of the company in seeking to develop other sources of supply and suffering shortage of supply without making any effort to secure any water from the surface flow in Oregon above the Nursery bridge recognized that the limitation on its right did apply in favor of Oregon diverters.

**2) Water Requirements.**

The Master in his report (pp. 75–100) reviews the testimony on the use of water in Oregon and finds (pp. 113, 114 and 115):

"13. The use of water by the irrigators within the state of Oregon is not unduly wasteful but is, under the circumstances, a reasonable, beneficial and necessary use.

"14. The users within the state of Oregon have not diverted or used water in excess of their necessities or in excess of the amounts decreed to them under the Oregon decrees.

"15. The present use of the waters of the Walla Walla river in the two states has grown up normally as the economical division and distribution of such water on lands upon which the water can be most advantageously used and is, as between the two states, an equitable division and distribution of the waters of the Walla Walla river.

"3. The state of Oregon and its appropriators are not diverting and using more of the waters of the Walla Walla river than their equitable proportion thereof."

The importance of this subject is such that we feel that in our brief we should point out the testimony supporting this finding.

In discussing this subject we will consider not only the use of the water upon the land but also the method

of distribution. This involves the so-called "duty of water" in its restricted sense of the quantity of water essential to successfully irrigate a definite quantity of land, and also in the broader sense of the economical diversion and transportation of that water.

In determining the duty of water, various agencies have adopted one or the other of two policies:

(a) The spreading of the water over the largest possible area; or

(b) The giving of each tract the water necessary to successfully and profitably raise crops regardless of the general areas covered.

Those adopting the first policy fix an average duty of water for the whole area; the second fix a maximum duty of water. The first course is an attempt to force all facts and conditions into a theory; the second takes the facts and conditions as they exist and accommodates the theory to fit all the facts and conditions.

Oregon follows the second course. Washington, in this case, has adopted and is demanding the former course, except during flood times when every one helps himself.

The effect of the Washington system is disastrous. Lack of water has compelled its water users to lease water from older rights; to change their crops, to adapt their crops to the new order of things, and to lose money (see Wash. Nar. Test., Cundiff, p. 46; Hastings, p. 47; Sams, p. 48; Danielson, p. 50; Dill, p. 44; Hammer, pp. 24 and 25; Williams, p. 33).

The application of such a rule would have a like effect upon Oregon. Witnesses said:

> "If I miss an irrigation it shows in the quality and quantity of the fruit. * * * If water was

cut down I simply would have to quit the tomato business. * * * If water is cut down it reduces the crop; produces more culls, and the trees shed; the fruit drops off." (Or. Abs., Karker, p. 77; Babcock, p. 79; Hermann, p. 84; Rogers, p. 37; Herr, p. 63; Roeder, p. 45; Rogers, p. 30).

Cutting down the amount of water to a point where it causes a farmer to change his crop, or lose his crop, or change his farm from a profitable one to a losing venture is contrary to law:

"Where an appropriator has a prior right to ample water to irrigate properly a certain tract of land, the successful raising of crops thereon should not be made to give way by an award of a certain quantity of water which would require too great economy in its use." 2 Kinney on Irrigation, (2d Ed.) p. 1594.

"An appropriator, subject to rights in existence at the time his appropriation is made, may take all the water he can use reasonably and without waste for a beneficial project, although it may be the lions' share and none may be left for those who came afterwards." Caviness v. La Grande, 60 Or. 410, 421, 119 P. 735.

See, also:

*Bolter v. Garrett*, 44 Or. 304, 75 P. 143.
*Low v. Schaffer*, 24 Or. 239, 33 P. 678.
*Carson v. Haynes*, 39 Or. 97, 65 P. 814.

The rule is also recognized in Washington:

"It follows that respondents' title to the waters of Antoine creek must date from the time of their entry in 1914, at which time they were subject to the prior appropriation of the appellants who, as the evidence shows, will probably need the entire flow in the dry

season of the year. * * * It is unfortunate that the flood waters of Antoine creek can not be conserved for the use of all, but so long as our laws measure the rights of the appropriator of water by the necessities of the dry season, the first in time must be the first in right. The just purpose of the trial judge to apportion the waters can not be sustained in the light of the evidence showing that there is no excess of water running to or waste by appellants. * * * This cause is remanded with instructions to enter a decree fixing the amount of water actually necessary to irrigate the lands of the appellants, even to the full flow of the stream in the dry season, leaving the residue, if any, subject to the riparian right of respondents." Avery v. Johnson, 59 Wash. 332, 109 P. 1028.

The federal courts have announced the same doctrine:

"Beyond question, under our laws a party may be protected in the use of all the water he actually appropriates and uses, even if it be every drop that flows in as great a river as the Snake." Trade Dollar Co. v. Fraser, 198 Fed. 587, 594.

This agrees with the opinion of scientists who have made special studies of irrigation. Harding says (Or. Abs., p. 127):

"A decree applying any uniform rate to a large area should have a rate liberal enough to cover the requirement of the main portion of the coarser types of soil. * * * Within that area not recognized by the decree but probably existing, one could find small areas where perhaps the land could be handled on a smaller allowance, but those areas are so scattering and their extent is such that it is not feasible to distinguish them in the decree."

Carter says (Or. Abs., p. 139):

"I think there is a tendency on one side to approach a theoretical minimum, opposed on the other side by poor, haphazard farming, or just use of water. The problem as I see it, and the theory I pursue is to reach a reasonable meeting ground between the two extremes."

And, at page 137 (Or. Abs.), says:

"In my experience the quantity of water available has a relation to the production and prosperity of the project. The general prosperity of the project is quite largely affected by the available water supply. Considering one project in comparison with another, the water will be a very close measure of that project's prosperity. As the water supply diminishes, land values will diminish proportionately to the available supply which fixes the crop production. So eventually, if a water supply is spread out too thin and a man's farm is spread out over too much area and not enough production per acre, he comes to the point where his taxes and his over-head cost of farming and things of that nature exceed his return. The intensity and diversity of farming is affected by the available supply of water. With a continuous supply of water of a fairly generous proportion, it is possible to have diversified cropping so that within a rather wide range he may pursue his own desire in the matter of crop selection, while if the supply is limited there will be two or three crops grown with profit. Crop yields increase with available water supply."

Dr. Powers refers to bulletins showing the effect, on crops, of insufficient water supply (Or. Abs., p. 100).

These opinions of Mr. Harding and Mr. Carter are especially applicable to the Milton-Freewater com-

munities, because a reference to Young's soil map (Wash.'s Ex. No. 15) shows that between four and five thousand acres of the lands irrigated in that district are of the coarser gravel (No. 3) lands, and virtually all of the lands irrigated during the dry season of the year are of that type and require the maximum amount of water to irrigate them.

These opinions agree with practical work in the field. Mason, the water master in Oregon, says (Or. Abs., p. 58):

> "* * * As a matter of administration we can not differentiate between the soil classes upon the gravel fan and the up-river soils. The soil is so general in character it would take a very minute detailed measurement, and it seems to me would be impractical as far as distribution is concerned. With my knowledge of the territory and my familiarity with the water rights. I can not pick out on the Young's soil map the areas of soil in each man's holding; that is, the different classes of soil in each man's holdings. * * *"

Humphrey, assistant state engineer of Oregon, in charge of water studies and distribution, says (Or. Abs., pp. 90 and 91):

> "* * * I have attempted to ascertain the areas of the different classes of soils. I have examined it to ascertain whether I could take that soil map and the Oregon decrees and from them determine the particular kinds or quantity of the particular kinds of soil upon the holdings of the various individuals, and I believe it would be an impossibility."

See, also, Or. Abs., Powers p. 94, Harding, pp. 111 and 112.

This leads us to consider how the essential duty of water is determined:

> "World-wide experience in the use of water on cultivated crops during long periods of years, shows that the duty varies with (1) the reaction of the soil; (2) the age of the soil; (3) the kind of crop; (4) weather conditions; (5) the slope and condition of the conveying channels of supply; (6) the distance the water is carried in the ditches and channels to the fields, and, (7) the experience and skill employed in irrigation." 2 Kinney on Irrigation, (2d Ed.) p. 1595.

The Oregon court says that the amount of water that may be taken by a prior appropriator for irrigation depends on the number of acres of irrigable land susceptible of cultivation, the degree of sterility of the premises, the most profitable crops that can be raised by artificial application of moisture and the quantity of water necessary to produce the harvest by careful husbandry. (*Donnelly v. Cuhna*, 61 Or. 72, 119 P. 881). And the character of the soil and climate (*Little Walla Walla Union v. Finis Irrigation Co.*, 62 Or. 348; 124 P. 666; 125 P. 270). The water lost by leakage of the ditches and flumes of the appropriator, reasonable care and diligence in their construction and maintenance being had, will be considered (*Joseph Milling Co. v. City of Joseph*, 74 Or. 296, 144 P. 465). The water of the various users will be measured at the point of diversion (*Little Walla Walla Union v. Finis Irrigation Co.*, supra).

### Washington's Evidence

Washington, being the complainant, has the burden of proof in establishing her contentions as to the duty of water (see our argument under Burden of Proof).

To meet that requirement, the state of Washington called Marvin Chase, Wm. W. Johnston, Carl A. Larson, and James G. Woodburn.

MARVIN CHASE is a man of wide experience in irrigation matters, and has known the Walla Walla basin since 1917, yet with all of this experience he was only called to testify concerning an estimated acreage of different classes of soil based upon his conclusions from the decree (Wash. Ex. No. 1) and Young's soil map (Wash. Ex. No. 15), and regarding the alleged waste up-stream in the canyon above Milton, and in the Milton ditch.

The acreage covered by his testimony in the up-stream territory is inconsequential as compared with the great body of irrigated land from the Walla Walla river in Oregon. The up-stream territory above Milton is a narrow canyon bordered and floored by solid basaltic rock from which no water can escape, and in which all water taken from the stream for irrigation and not used by plant life or lost by evaporation returns to the stream (Wash. Nar. Test., Chase, p. 21; Or. Abs., Perry, p. 48; Mason, pp. 52 and 53; Harding, p. 124).

The tabulations were admitted by counsel for the state of Washington (Wash.'s Ex. 20, 21, 22 and 23) to be estimates only and merely illustrative of the data on the Young's soil map. It is admitted that it is impossible to make a real estimate (Wash. Nar. Test., p. 10).

Chase made no measurements and gave no calculations of the amount of any loss. He simply makes the statement that such method of diversion is wasteful

The head of the Milton ditch is in an old channel of the river (Wash. Nar. Test., Chase, p. 15). Mason testified that it was originally the main channel (Or. Abs., p. 54). The appropriation of the Milton ditch having been made from the original channel of the Walla Walla river, it has the right to insist that water continue to flow as it did when it first made its appropriation. (2 Kinney on Irrigation and Water Rights, (2d Ed.), p. 1398).

The language of the law under the Arid Region Doctrine of appropriation is "The appropriator took the water with the right to have the stream flow as it was want to flow." Seepage losses in the old channel can not be charged up against the Milton ditch appropriation.

Chase further testified that the diversions upstream were temporary, and that at small expense permanent structures could be put in; but Mason says (Or. Abs., p. 53):

> "* * * The changing character of the stream and the banks is one reason for that. When the river recedes I go on the upper river, check on the quantity used, and regulate their headgates in that particular section. I usually regulate it at the spillway. On that section of the river it is almost impossible without an enormous expense to keep anything that would withstand the river pressure; it would cost more than a small irrigator could invest."

The acreages irrigated from these diversions are very small and, certainly, the practice of the farmers in the canyon above Milton is reasonable under the circumstances.

JAMES G. WOODBURN, a man well educated as a civil engineer, and professor of hydraulic engineering at the State College of Washington, has never had any experience with the distribution of water for irrigation. He first came upon the Walla Walla project in June of 1932, when he spent two months in field work, office work, and computations. Again, in 1933, he spent two months in the study of the stream, no part of which time was during an irrigation season. He took the Oregon decree (Wash. Ex. No. 1) and the stream flow records (shown in Wash. Ex. No. 18), and from that data, without reference to the conditions in the field, attempted to demonstrate a system of distribution from which Washington might receive from Oregon an additional supply of water. He assumes that the return flow to the stream is equal to the seepage losses and the use of water in the canyon above Milton (there is no testimony supporting this assumption), although he found that over a distance of two miles in the Crockett branches there was a loss of 17 per cent (Wash. Nar. Test., pp. 136 and 137).

A tabulation of Woodburn's conclusions appears in Washington Exhibit No. 30. The effect of taking the water supply as given by Woodburn and applying it to the acreage actually irrigated under field conditions is shown by Oregon's Ex. No. 44.

A comparison of Exhibit 44 with table IV of Washington's Exhibit No. 30 shows that Woodburn's acreages were wrong. It shows that he did not take into consideration transportation losses in the natural channels, or the increase of water allowed by the Oregon decree, where the size of the tract is less than one acre.

Considering the actual conditions in July for the territory below Milton, in place of an over-diversion of 14.95 c.f.s. there was only an over-diversion of .81 c.f.s.; and for August instead of an over-diversion of 10.07 c.f.s., there was an under-diversion of 4.5 c.f.s.

Woodburn based his calculations on the mean flow of the channel or ditch for the entire months of July and August. The Ford branch had a mean diversion in July of 20.42 c.f.s.

Washington's Exhibit 18 (p. 114) shows 11 days in July with flow in the Ford branch below the mean. For August the mean flow was 18.45 c.f.s., and it shows that during that month there were 17 days in which the flow was below the mean. A similar condition existed on the other channels and ditches.

The stream is flashy, subject to frequent and sudden rises and falls (Stipulation No. 3, Par. 1; Or. Abs., Mason, pp. 59 and 61). No tabulation based upon the mean diversion per month can possibly show the water actually received by the irrigator.

Oregon practices rotation. If the flashy rise of the stream comes when one irrigator has the water, he may have an over-diversion and the benefit of such rise. On the other hand, when the next irrigator in the rotation plan receives his supply the water may be down and he will suffer an under-diversion. A theoretical mean flow upon a flashy stream can not be used to prove an over-diversion.

Neither Chase nor Woodburn attempted to testify as to the amount of water required to irrigate an acre of land in the Milton district. While this would not be expected of Woodburn, yet Chase (being the one

Washington witness qualified by his years of experience in irrigation matters) was the one to give such testimony.

Certainly, the rule of evidence applies that, where better testimony is within a party's reach and is not produced, the presumption is that it would be unfavorable to his contention.

WILLIAM W. JOHNSTON has had some experience in irrigation matters. He went to school and worked under Dr. Powers, a witness for the state of Oregon.

For the purposes of water requirement, he divides Dr. Young's soil types into two groups; Young's class 3 and 2-B lands he places in group "B", and recommends nine-tenths inch per acre, and the balance of Young's classes he places in group "A", at one-half miner's inch per acre.

The force of his conclusions is weakened by the following circumstances appearing in his testimony:

Mr. Johnston never conducted any duty of water experiments on the class of soils found around Milton, and although he has watched irrigation on gravelly soils, he, himself, never handled water on such soils (Wash. Nar. Test., pp. 189 and 190).

He bases his testimony almost entirely upon his experience at Sunnyside, Washington, and states that class 3 soil here falls between two types of soil he encountered there. He made no soil tests other than a soil examination of the profile for comparative purposes, no determination of the soil content and water capacity, and no laboratory test (Wash. Nar. Test., p. 195). He admitted that the holding capacity of the soil here is much less than in the No. 5 soil in the Sunny-

side division. He also stated that long years of farming is the best demonstration of what is actually needed (Wash. Nar. Test., p. 193), and that the high-water requirement on the class 3 lands is due to the fact that the water-holding capacity is low and frequent irrigation is required (Wash. Nar. Test., p. 184). He describes the soil as being coarse gravel mixed with soil down to about 16 inches, and from then on down to the cement gravel as exceedingly porous and very loose (Wash. Nar. Test., p. 199).

Johnston minimizes the effect of existing extraordinary conditions and attempts to adapt his Sunnyside plan to local conditions. He attempts to force all facts and conditions into his theory in place of altering his theory to conform to all the facts and conditions.

The weight to be given his testimony is therefore dependent upon the extent to which conditions in the Sunnyside project are comparable to the Milton district. Johnston, himself, states that both Powers and Harding are familiar with the Sunnyside project (Wash. Nar. Test., p. 90). Both Powers and Harding say that the conditions are entirely different and the soils not comparable (Or. Abs., Powers, pp. 101 to 103; Harding, pp. 113, 114, 131, and 132).

CARL A. LARSON (Wash. Nar. Test., pp. 152, et seq.) testified that he was engaged as United States agricultural agent cooperating with the Irrigation Branch Experiment Station at Prosser, Washington. He also groups the soils into class "A" and "B" as did Johnston. In his opinion one-half miner's inch per acre is sufficient for group "A" and one miner's inch for the group "B", or 18 acre-inches per month.

That his conclusions are entitled to but little weight is shown by the following:

He testified that class 3 soils will store very little water from one part of the season over to the other. He did not consider any of the use records for particular lands, although with limitations the use which has been made of water is the important factor in determining the duty (p. 162).

He studied the No. 3 lands around Milton. The heavy soil carried down pretty well through the first foot; after that it became quite coarse. He made no study below the first three feet. The texture of the soil below the first three feet where it becomes coarse has a great deal to do with the vertical drainage which is a very material determining factor in fixing the head of water necessary to get over a tract of land and irrigate it after considering the surface (p. 163).

Larson said the expense the irrigator has gone to is a matter for consideration, and if an irrigator has used every efficient method and has gone to the expense of putting in a pumping plant, especially during years of low prices, it would be powerful evidence that his gravity supply was too small (p. 164).

Larson is not a man of great experience. He is barely out of school. He has had no experience with class 3 soils. He made no tests to determine the moisture-holding content. He found no fault with the methods of irrigation in Oregon, except as to length of some of the irrigation furrows.

He attempted to apply his theory, developed at Prosser, on class 1 lands there, to the lands here where conditions and requirements are entirely different.

The weight to be given his testimony under such circumstances can not be great, for he says that his conclusions are not based upon actual present knowledge of his own, except by comparison (p. 168).

Although the soil map shows that there are areas of gravelly land of class 3 soil in the state of Washington (Wash. Ex. No. 15), yet no practical irrigator was called by the complainant to show that any such land in Washington had been successfully irrigated by a lesser amount of water than that used in Oregon. The testimony of all practical farmers in Washington, who own lands near the gravelly soil, is to the effect that they did not have sufficient water after the Washington duty of water was established.

**Oregon's Evidence.**

The testimony of practical farmers is favored by the courts:

> "* * * In its investigation the court can not say that the testimony of experts as to the amount of water used or required must be accepted as against the farmers of the Vicinage who had been living in the valley and using the water for several years. * * * A reference as to what was said by this court in Union Mill and Mining Co. v. Dangberg, 81 Fed. 99, 100, without comment shows that even experts are liable to make mistakes in their methods of using water, and in their judgment as to the amount of water necessary to irrigate an acre of land." Rodgers v. Pitt, 129 Fed. 932.

See, also, *Robertson v. Wilmoth*, (Colo.) 90 Pac. 95 at 96, where the court followed the testimony of witnesses who:

> "* * * had lived on the creek twenty years, and were thoroughly familiar with the water condi-

> tions in the creek; were practical irrigators; had used the waters of the creek in controversy for the irrigation of their lands during the 20 years last passed, * * *."

in preference to that of expert witnesses. (See, also, Wiel, Water Rights, (3d Ed.) 507).

In order to check up on the water actually used by farmers in irrigating their crops, the state of Oregon picked out nine separate tracts of land farmed by representative farmers of the district and measured the water used on each of these places. These tracts were located in different parts of the related territory in Oregon. In order to cover the actual conditions existing on each place, the results of these measurements were tabulated by Mr. Humphrey and placed in evidence as Oregon's Ex. No. 42. Each of them were supplied with water during the whole irrigation season except the place of W. R. Bookout, whose land is situated under the Pleasant View ditch. (The water in the Pleasant View ditch was shut off on the 4th day of July because of the late priority date). Each of these test places showed the use of water at or about the quantity set by the Oregon decree, and each of these practical farmers testified that the water received by them was necessary to raise their crops (see Or. Abs., Babcock, p. 77; Bookout, p. 82; Eiffert, p. 79; Harris, p. 82; Herman, p. 83; Herr, p. 84; Karker, p. 76; Knopf, p. 61; and Roeder, p. 41).

In addition to this, the testimony of Elba and Alta Rogers, both practical farmers, is to the effect that one and a half miner's inches per acre was necessary to irrigate the lands (Or. Abs., Alta Rogers, p. 33; Elba Rogers, p. 28). Even though the Oregon decree fixed the duty of water at one and a half miner's inches per

acre, yet when that decree was placed in effect the amount of water used by some of the irrigators was cut down (Or. Abs., Forsythe, p. 27; Elba Rogers, p. 29; Alta Rogers, p. 34; Warren Roeder, p. 43).

The process of establishing an economical system of distribution of the water was started when the water masters went on in 1913. The last main divide was put in in 1919, the year Roeder left the job (Or. Abs., Roeder, p. 42).

The method used for distributing the water on the farms is about the same all over the district. It is the furrow method (Or. Abs., Ella Rogers, p. 31; Stipulation No. 3, Or. Abs., p. 4). Rogers has made his living on, and fully developed, a 3½-acre tract of land. He runs his ditches three feet apart and not quite 40 rods long (Or. Abs., p. 31); Alta Rogers runs his ditches 20 rods long (Or. Abs., p. 35); Roeder, 20 rods (Or. Abs., p. 44; and Babcock, 20 rods (Or. Abs., p. 78). Eiffert has three runs in 75 rods (Or. Abs., p. 81); while Hermann has ditches varying from 15 to 40 rods (Or. Abs., p. 84). These are the standard of runs all over the related territory, and produce good results.

Harding says that the general character of practice as to length of furrows, and the arrangement of the land is representative of that usual under similar conditions (Or. Abs., p. 113), and that the general length of 330 feet is not unreasonable (Or. Abs., p. 129).

Carter testified that the farming practice was good, and the irrigation appliances and the distribution of water was all that might be expected under general economic conditions, and not out of line with good irrigation practice (Or. Abs., p. 136).

Witnesses for the state of Washington, while expressing the opinion that the run should be shortened, admitted that the 20-rod length of furrow was not unreasonable if, in the development and progress of irrigation in the community, the use of such furrows had been found economical (Larson, Wash. Nar. Test., p. 165; Johnson, p. 193).

The effect of cutting down the water on tomatoes causes them first to wither, then the fruit gets smaller as it ripens, and the smaller fruit goes into seconds and then culls because too small for the market (Or. Abs., Elba Rogers, p. 30). Cutting down water on apples makes the fruit small and they do not color well. This makes apple raising unprofitable (Or. Abs., Alta Rogers, p. 37; Karker, p. 79).

The effect upon prunes and cherries is to reduce the crop, produce more culls, and cause the trees to shed and the fruit to drop off (Or. Abs., Eiffert, p. 81; Roeder, p. 45; Hermann, p. 84). Where the supply of water is insufficient it causes a drouth spot, or brown spot on prunes (Or. Abs., Herr, p. 63); and a black spot on apples (Or. Abs., Karker, p. 77).

In the irrigation of the various farms in the related territory in Oregon there is no waste (Or. Abs., Humphrey, pp. 89 and 90). Elba Rogers takes eight rows and gets over his land in 24 hours, and keeps irrigating night and day. There is very little run-off; sometimes enough for his neighbor below to use it, and at other times not enough. It is all used and none wasted (Or. Abs., Elba Rogers, p. 31). The system is to catch the waste water and use it again (Or. Abs., Alta Rogers, p. 39; Roeder, p. 43). The practice of using a tail-ditch to catch the overflow of the furrows is considered

by Harding to be a reasonable and desirable practice (Or. Abs., p. 113). Johnston also thinks the practice desirable (Wash. Nar. Test., p. 185).

The conclusion of Washington (stated on pages 118 and 119 of their brief), that the Oregon practice utilizes eight to 10 delivery ditches to water the lower groups of furrows, is not substantiated by the testimony. There is a separate head-ditch to the lower group of furrows which conveys the water for their irrigation, but to the extent of any unavoidable run-off from the upper furrows it is picked up and utilized on the lower (Or. Abs., Roeder, p. 43). This prevents waste.

By vague, general charges of waste, and by calling attention to the practice on the stream above Milton where the acreage is small and there is a prompt return flow to the stream of any excess diverted, Washington has not proven waste.

Much of Oregon's distribution of water is through natural channels which do away with the need of long conveying canals (Or. Abs., Harding, p. 114). In these there is a loss by seepage and deep percolation (due to the nature of the soil) which the witnesses said ran around 20 per cent (Wash. Nar. Test., Woodburn (15 per cent to 17 per cent in 2 miles), p. 137; Or. Abs., p. 48, Perry (8 per cent per mile); Mason (15 per cent to 20 per cent), pp. 54 and 60; Roeder (15 per cent), p. 42; Spencer (17 per cent to 22 per cent), p. 143). Harding says a 20 per cent seepage loss is reasonable (Or. Abs., p. 114).

Such seepage loss is not waste. It always existed as a natural condition and is less than most canal losses (2 Kinney on Irrigation, (2d Ed.), p. 1601, § 907; 1 Wiel, Water Rights in Western States (3d Ed.), 525 to 527).

Oregon properly makes allowance for this channel loss in administering the stream system.

Owing to the slope of the land in the related territory, which has a gradient of about 80 feet to the mile, the porosity of the soil, the shallow depth of the mixture of soil with gravel, and the lack of a supporting water table, it is necessary for irrigators to divert a large head of water in order to get over their land (Or. Abs., Harding, p. 113). In such cases there necessarily is some run-off, and, where the farmer does not own sufficient land to catch this run-off in tail ditches and irrigate his own land with it, such run-off goes down for the neighbors to use. This is not waste (*Beasley v. Engstrom*, (Ida.), 168 P. 1145). It is an economical use.

The frequency of the application and the amount of water required per application to the lands determine what is necessary for irrigating that land (Or. Abs., Harding, p. 116). Stipulation No. 3 (Or. Abs., pp. 3 and 4) shows that, outside of the gravelly soil, water is supplied about once every two weeks. In areas of gravelly land it is once a week for orchards, alfalfa and grain, and from two to three times a week for strawberries, tomatoes, garden vegetables, and short-rooted crops. This stipulation is also borne out by the irrigators (Or. Abs., Elba Rogers (p. 30), every three days; Alta Rogers (p. 39), from three to four days; Roeder (p. 44), one week; Herr (p. 63), for trees every six days, and garden twice a week; Karker (p. 77), trees once a week; Babcock (p. 79), four and a half days; Eiffert (p. 80), orchards every eight days; Hermann (p. 84), less than a week.

This interval has been checked by Powers, and agrees with the water-retaining quality of the soil (Or.

Abs., p. 105). He says that the No. 3 lands should be irrigated once a week for tree crops and for tomatoes at least twice a week to prevent wilting. Harding agrees that the frequency required checks with the information as to soil (Or. Abs., 117).

Harding (Or. Abs., p. 116) says:

> "The landowner may not be familiar with methods of measuring water so as to determine or know the quantity of water which he uses, but I have found in all of my experience that actual irrigators can and do know the frequency with which it is necessary to irrigate their different crops * * * The irrigator is in the best position to determine any injury to the crop from too long a delay in the times of irrigation, and has a more constant contact with the soil and the crops than is obtainable otherwise."

Johnston corroborates this (Wash. Nar. Test., p. 201).

In all the record there is no testimony to contradict the necessity of this frequency of irrigation. It can, therefore, be taken as an established fact.

The amount of water required for each irrigation is fixed by Oregon witnesses as follows: Harding, 5 to 6 inches (Or. Abs., pp. 118 and 119); Carter, 5 to 6 inches (Or. Abs., p. 135); Powers, 5 inches (Or. Abs., p. 99). Larson, Washington's witness, fixes it at 4 inches, without allowing anything for deep percolation (Wash. Nar. Test., p. 168); which is unavoidable (Or. Abs., Harding, p. 120). Johnston said "close to six inches" (Transcript, p. 985).

Oregon's method of distribution of water from the streams is economical. The first decree was rendered upon the Walla Walla river in Oregon in 1912 (Or. Ex.

31). A water master was put upon the stream (Or. Ex. 32), and at that time there was only one concrete diversion works. There were wooden divides and headgates of different patterns, with cracks and holes around and under them (Or. Abs., Roeder, p. 41 et seq.) The water master began to encourage improvement of the stream. Seepage losses were checked, concrete divides were put in, and the water was measured to the water users on the gravel sector on the basis of 1½ inches per acre (Perry, Or. Abs., p. 46 et seq.). Since 1921 Mason has been the water master (Or. Abs., pp. 52 et seq.). He usually starts regulating the stream in May and June and makes careful adjustments. On the Ford and Crockett branches water is delivered to the water users through proportionate weirs, and the control is exercised at the frog (Or. Abs., p. 57). The gate at the frog is adjusted so that exactly enough water goes down to take care of all diverters upon the channel. It takes about four days to adjust and cut out priorities on the Ford and Crockett branches, and about two days to adjust other diversions. Whe[illegible] he discovers waste, he cuts down the irrigator's [illegible]of water until the irrigator changes his system, in order not to make a wasteful use (Or. Abs., p. 55). Waste is remedied immediately in all cases (Or. Abs., p. 56).

When there is high water so that there is plenty for every one, no attempt is made to measure the water to any irrigator or prevent waste. When the water is low, both the water master and the irrigator keep a check on the amount of water delivered.

Rotation is practiced wherever possible (Or. Abs., p. 56). By reason of the flashy nature of the stream there may be at times over-diversions, and sometimes

under-diversions. These are remedied wherever practicable (Or. Abs., pp. 59 and 61).

In the upper stream above Milton the changing character of the stream and the sudden raises in water prevent the installation of permanent diversion works (Or. Abs., Mason, p. 53). The diversions in the canyon above Milton are small and these works are temporary each year. They are what any one would necessarily expect to find on a stream of that nature, and are not unreasonable (Or. Abs., Humphrey, p. 90).

In the whole record there has been no specific amount of loss pointed out that has been caused by the state of Oregon. The testimony of the state of Washington consists of generalities to the effect that the methods are wasteful, and that there is a lack of water-saving devices. But there is no testimony of how much water is lost thereby or of how much water could be saved by installing anything different from what is already used. In and around Milton it would not be economical to line or flume the ditches to any extent under present conditions (Wash. Nar. Test., Johnston, p. 197). Washington did not observe the diversion works in Oregon, and observed no waste in that regard. From all the testimony, therefore, we submit that Oregon has proven that her system of distribution is economical.

Expert witnesses should base their opinions on facts proven. The value of expert testimony depends on the extent of the experience and study of the witness, as well as upon the facts and conditions upon which it is based.

Larson and Johnston, testifying for Washington, placed no facts before the court as a basis for their

conclusions, but merely testified that having hurriedly gone over the territory they have formed certain opinions. On the other hand, Humphrey, Powers, Harding, and Carter, as witnesses for the state of Oregon, have taken the facts and conditions as presented in this court and compared them with similar conditions elsewhere to show the reasonableness and correctness of the Oregon farm practices and duty of water.

HUMPHREY (Or. Abs., pp. 84 et seq.) supervised and gathered together hydrographic data, measurements, and operations on the test places so that all these facts could be assembled in concise form for this court.

He has had some years of experience in adjudication work, and in the determination of water requirements. He was on the ground while irrigation was in progress; actually saw the application of water, and the results. He fixes the duty of water at one and one-half inches per acre on the gravel lands, and from one to nearly one and one-half inches per acre on the other lands (Or. Abs., p. 90). The actual application of such amounts did not produce waste (Or. Abs., p. 90). Because of his practical experience, and because they are based on actual knowledge of local conditions, his conclusions deserve consideration.

DR. POWERS is a soil scientist in charge of the soil department of the State College of Oregon at Corvallis, and has had 27 years of experience in irrigation and drainage investigations (Or. Abs., pp. 92 et seq.). He is thoroughly familiar with local conditions and has watched actual irrigation on the lands involved. He describes the soil classifications and gives the soil analysis of the No. 3 lands in Oregon. He has also de-

termined the storage capacity of the class 3 soil by actual scientific examination and tests, and found that the most storage capacity is in the first two feet, and is from two to two and one-half acre-inches, so that class 3 soil would retain perhaps two and one-half to three acre-inches of water per irrigation (Or. Abs., p. 99). There is no question about the definiteness of this determination because he describes his method of analysis. The effect of frequent irrigations determines the size and quality of the fruit. He states that an experiment carried on at Medford with pears showed that, where frequent irrigation was applied without allowing the moisture to decrease to the wilting point, the size of the fruit was increased 30 per cent, and the growth of the tree was from 30 to 40 per cent better (Or. Abs., p. 99). Experiments have shown that the feeding root zone of trees is largely in the first two to two and one-half foot area, and they extract from 50 to 68 per cent of the moisture in the soil within that area.

Considering the nature of the soil, its slope, and the water supply, Powers states that it would be difficult to apply less than five acre-inches at one irrigation (Or. Abs., p. 99), and that a continuous flow of one and one-half miner's inches is necessary to irrigate one acre (Or. Abs., pp. 99 and 105). Being an unusual soil, it requires an unusual amount of water to irrigate it. He fixes the duty for the other soils as follows: 1, 1-R, and 1-D soil, four-sevenths inch; 2-T soil two-thirds inch; 2-A soil one and one-sixth inches (Or. Abs., p. 106).

S. T. HARDING, who is professor of irrigation at the University of California, is perhaps the most widely-known authority on irrigation matters in the nation. He has specialized in irrigation since 1907. He made a special study of the data and conditions existing

in and around Milton. A reading of his testimony (Or. Abs., pp. 110 et seq.) is convincing, and is required to determine the weight to be given it. He delineates to the court the things that he has considered and studied. He checked the irrigation practices and the soil conditions with other projects which he has seen. He has studied the available data more thoroughly and more understandingly than any other witness.

The findings of Dr. Powers in his analysis of the soil check with Harding's experience. He took the data gathered in this case and from it by mathematical calculations deduced that one and one-half miner's inches per acre is rightly used and required (Or. Abs., p. 119). His examination of the farms convinced him that their irrigation practices are reasonable; that the test places were representative of the whole district; that there was no waste, and that fixing the duty of water at one and one-half miner's inches per acre is not out of line with the standards found to exist in other projects. His testimony shows his conclusion to be a matter of scientific determination from record facts. It is not a guess.

GEORGE H. CARTER began his work in irrigation and engineering in 1908, and from 1921 to 1931 was Director of Water Resources and Commissioner of Reclamation for the state of Idaho in direct charge of all irrigation matters (Or. Abs., p. 132).

Several projects in Idaho have similar conditions and quite similar soil as exists around Milton and Freewater. He took the facts and data presented before this court, compared them with familiar projects in Idaho showing similar soil analysis, made an investigation of field conditions in and around Milton, considered the

seepage, the frequency of irrigation, and the crops. He was of the opinion that the minimum of water that could be applied to the lands in one irrigation was from five to six acre-inches. This opinion checked with his experience on the projects in Idaho with which he is familiar. He calculated the amount of water used upon the test places; defined his method of calculation, and demonstrated one and one-half miner's inches per acre was a reasonable requirement. In his opinion, it would not be permissible or of any value to take the stream flow for an entire irrigation period over six or seven months, average it up, and say that it is the amount that can be beneficially applied each month (Or. Abs., p. 138). It must be based upon the available supply in the critical months. Based upon fact, the duty of water must be fixed at one and one-half miner's inches per acre.

The supreme court of the state of Oregon has twice approved this duty of water upon these Oregon lands. In the case which started in 1905, the court held:

> "* * * The tendency of the water to sink is indicated by what is known as the Rogers underground ditch. Mr. Rogers has a tile underground ditch a distance of one-fourth mile. Where it emerges on his place the flow is, at times, as much as 1.43 second-feet, and most of the time it is more than .50 second-feet, which, he testified, furnishes no water in the winter or when the water is confined to the channel of the stream; and that it flows the greatest quantity when irrigation is most extensive, indicating that there is a great loss from seepage from the ditches and irrigated ground. It is apparent that the ground in question requires much more water than would be required for loam or other fine soils.

"C. L. Swain and O. L. Waller, who were called by plaintiffs as witnesses, are experts in the measurement of water; but their knowledge of the duty of water is derived largely from hearsay, theory, and observation of its use upon land in another locality. They fix the amount of water needed upon volcanic ash land as one-half inch to the acre; but upon other soil of the valley from one and one-half to two inches; upon coarse gravelly soil, two inches to the acre. Other witnesses, not experts in measuring or estimating water, but with experience in applying it in irrigation, testify that the ground needs more than one and one-half inches. Plaintiffs cite the testimony of A. Miller, as to the need of water on his volcanic ash land; but in his case the water is raised directly upon the land and is carried for distribution in board gutters, so that there is little if any loss by seepage or evaporation, which fact must be taken into account in considering his estimates. The 250 gallons per minute, raised by the pump, equals .554 second-feet or .31 inches per acre, so that his testimony as to the amount needed on the land under the Milton ditch does not vary much from that of Swain and others, viz, one and one-half inches.

"The lands of Rogers and Shaw, who testified to the amount of water they use, and the amount needed, are located down the valley where the subsoil is full of water from the irrigation above, as indicated by the Rogers underground ditch, above mentioned. As to the smaller tracts, several in one locality should rotate in the use of water, so that each may have a larger head while applying it, with less waste. Although there may be some tracts that need less water than others, they have not been segregated or identified, and we find that, except as to the Miller tract, an inch and a half, miner's measurement under six-inch pressure, per acre, is necessary and sufficient to irrigate the lands of the defendants, except tracts in vegetables and small

fruits which require two inches to the acre. * * *"
Little Walla Walla Irr. Co. v. Finis Irr. Co., 62 Or. 348, 353, 354, 355.

There can be no question under the undisputed evidence in this case that, as to all of the lands mentioned in the decree entered upon the mandate on that case (Or. Ex. 31), the decree, based upon that duty, has been administered ever since for a period of more than 20 years. The decree, of course, relates back to the inception of the suit, which was in 1905, or almost 30 years ago.

Again in Washington Exhibit No. 1 the decree on the mandate in the Oregon adjudication fixes the duty of water as follows:

> "The soils of the Walla Walla valley, as a whole, are comparatively shallow and porous, underlain with a loose gravelly soil, the condition changing to a more tight soil in the northern end of the valley near the state line. Based upon the testimony and other available data as to the needs, the duty of water is hereby fixed and determined to be one and one-half miner's inches per acre, measured at the point of diversion, provided that in no case shall more water be applied to the lands than can be beneficially used thereon. * * *"

We, therefore, respectfully submit that this court should find the duty of water to be one and one-half inches per acre. This amount of water is especially required on account of the small acreage of farms in Oregon, being an average of 7.01 acres per farm.

Other states have recognized the need of the larger water requirement on such lands:

> "* * * The evidence discloses that the Boyer land is rocky and gravelly, and requires a greater

amount of water to the acre than does that of appellant, and, in addition to the condition of the soil, the fact is established that little use can be made of less than an irrigating head, and that the small area under cultivation by respondents warrants an award of sufficient water to constitute a fair head of water. The award of two inches to the acre is justified by the evidence." Boehler v. Boyer, (Mont.), 234 Pac. 1086 at 1089.

The state of Idaho has allowed an even lower duty on gravel fans in the Snake river project and Upper Wood River valley (Or. Abs., Carter, pp. 133 and 134).

A convincing proof of Oregon's need of the amount of water they are using is furnished by the fact that there are over 300 wells on the gravel fan from which water is pumped for irrigation (Stipulation No. 3, Par. II, Or. Abs., p. 5). Oregon Exhibit No. 42 shows the amount of water pumped and the expense incident thereto on some of the wells. The total expense of such pumping runs to about $15,500 in a year (Or. Abs., Humphrey, p. 86). The fact that the farmers go to this expense tends to prove their need of water (Or. Abs., Carter, p. 138; Wash. Nar. Test., Larson, p. 164; Johnston, p. 193).

Washington tried to combat this proof by another theory of Dr. Woodburn (Wash. Nar. Test., pp. 149 to 152), to the effect that because of the rate schedule it might conceivably become cheaper to use electric power in place of paying for labor. Farmers in these times of stress do not pay for labor to spread water on 7.01-acre farms; nor do they pay their money for electric power unnecessarily.

The testimony of Oregon's practical farmers, corroborated as it is by the testimony of her experts (men of unquestioned qualifications and ability), and based upon actual facts proven and stipulated, must far outweigh the testimony of Washington's witnesses Johnston and Larson, whose testimony is purely theory not based upon facts proven or actual conditions shown to exist. Especially is this true since Washington was unable to call one practical farmer to testify that he could or had raised crops on similar soil with the amount of water Washington contends is sufficient for that purpose.

On this issue it must be held that Washington has again failed to meet the burden of proof.

The water requirement of the Oregon soil is fixed by judicial pronouncement and years of actual practice. The use of the amount of water they have had during all these years has resulted in intense cultivation, remarkable development, and unusual crop production. The necessity for the continued use of that amount of water is proven by the testimony of practical farmers as well as the opinions of experts reached by scientific determination, based on proven and stipulated facts.

Equality of right, equity, the rules of judicial determination, and every consideration of right and justice forbid that Oregon's development (based on this use of water) and the prosperity of its citizens, should be wrecked or even imperiled by following the conclusions (without factual basis) of Larson and Johnston, or the purely academic theories of Dr. Woodburn.

## Underground Water and Wells

If it is Washington's contention that the pumping of water from the wells in Oregon lowers the surface streams along the gravel fan, there is no evidence to support it. All of the evidence is to the effect that the water pumped from the wells is spread upon the gravel fan, which is of highly permeable material where water by deep percolation would speedily return to the ground water (Or. Abs., Piper, p. 72), subject only to some slight lag during the time it sifted through the gravel. The lag would, necessarily, make the water available at a more critical period. The proof is that irrigation from wells does not tend to distribute water further to the west and away from the stream (Or. Abs., Piper, p. 75), but rather that it tends to increase the movement to the north (Or. Abs., Piper, p. 73), where it would become available to Washington irrigators.

The pumping from wells has no perceptible or determinable effect on the ground water supply (Or. Abs., Piper, pp. 71 to 74). The ground water is a wave moving down the slope—a hill of water—and there is no reservoiring under ground, and no static water (Or. Abs., Piper, pp. 69, 71, 72, 75). The waters are purely percolating (Or. Abs., Piper, pp. 69, 70, 73).

Washington's argument is also recited under the heading: "4. Percolating Waters Once Part of Surface Stream."

Basing their position on the case of *Ellis v. Duncan*, (N. Y. 1855), 21 Barbour 230, 11 Howard Practice 515, and citing no other authority, Washington argues that, because the evidence shows the ground water comes chiefly from the freshet in the canyon above

Milton (Or. Abs., Piper, pp. 72 and 73), and that a part of it returns to the stream by percolation at various places along the length of the stream before the Columbia river is reached, the water, while percolating, is still a part of the stream and subject to the rules of law governing the use of surface waters within a stream channel.

*Ellis v. Duncan* holds directly opposite to Washington's contention. That was a case where an injunction was sought to prevent the owner of a farm from digging a ditch to drain his land so as to open and work a quarry upon it, when by so doing he intercepted the underground sources of a spring on his neighbor's land. The court held:

> "It seems to me that the rule that a man has a right to the free and absolute use of his property, so long as he does not directly invade that of his neighbor, or consequentially injure his perceptible and clearly defined rights, is applicable to the interruption of the sub-surface supplies of a stream, by the owner of the soil, and that the damage resulting from it, is not the subject of legal redress."

and denied the injunction.

As we understand it, there is no question in this case but what the underground waters are "percolating waters".

The presumption of law is that underground waters are percolating, and he who asserts the contrary has the burden of proof (2 Kinney on Irrigation and Water Rights, (2d Ed.), 2152, § 1188).

Piper, the expert employed by Oregon, Washington, and the government of the United States to determine

the underground water situation in the related area (Or. Abs., Piper, p. 65), in all cases in describing the movement of the water said: "It percolates * * *" (Or. Abs., Piper, pp. 69, 70 and 73).

The rules of law as to subterranean streams and water courses have no application to the case at bar. There is no proof of any well-known and well-defined channel having beds, banks, and current. The testimony is that the waters

> "Percolate radially outward down the slope of the fan in a rudely conical form, could pass along the western-most edge of the fan, to the northwest, or nearly northward" (Or. Abs., Piper, p. 70).

The rules of law governing under-flow of surface streams and water supporting the surface flow in the channels have no application here, since the record is barren of any testimony that the use of the wells for irrigation in any way affects the supply of water in the surface streams at or above the pumping area. The testimony does disclose that the ground water rises and falls in relation to the stream, but after the rise and fall of the stream (Or. Abs., Piper, p. 72), and that the water level is on a slope away from the stream on the gravel fan (Or. Abs., Piper, pp. 69, 70, 74). On such a slope, without any pumping, gravity would take the water away from the stream (Or. Abs., Piper, p. 69).

The evidence is undisputed that there is no underground reservoir or lake (Or. Abs., Piper, pp. 69, 71, 75).

The pumping from wells is high on the gravel fan (Or. Abs., Piper, p. 71). The ground water there is percolating radially outward over the whole fan

(Or. Abs., Piper, p. 70). No man can say whether the water pumped would have percolated west, northwest, or north (Or. Abs., Piper, p. 70), or whether it would have appeared in the inner, the intermediate, or the outer zone of springs (Or. Abs., Piper, p. 74), or where, if at all, it would reach the Walla Walla river. No man can say it would or would not have become any part of the water available for use by any Washington irrigator. No testimony discloses what part of the water pumped returns to the ground water supply by deep percolation and becomes available to and is used by the Washington irrigators.

This water can not be said to be interstate water and, therefore, the objection of Oregon (Wash. Nar. Test. 257) that this court has no jurisdiction is well taken.

Washington has shown no present injury to her rights by the pumping from the wells in Oregon. She has shown no threatened injury to such rights, and has not shown anything to indicate to what limits the use of wells in Oregon must be confined in order to prevent injury to Washington. The court has no evidence before it upon which to act on Washington's prayer for injunction against the use of wells by Oregon.

It is elementary law that, before injunctive relief is granted, some injury, actual or threatened, must affirmatively be shown.

Both Oregon and Washington have followed "the American rule" with respect to percolating waters to the effect that the percolating waters (as distinguished from subterranean reservoirs, lakes, and streams) are part of the land and belong to the owner thereof, who

may capture and use them on his overlying land although such use may cut off his neighbor's underground supply or limit the supply of a surface stream, so long as his use is limited to a reasonable use upon the overlying lands.

*Boyce v. Cupper*, 37 Or. 256, 260, 61 P. 642.
*Hayes v. Adams*, 109 Or. 51, 57 and 58, 218 P. 933.
*Meyer v. Tacoma Light & Water Co.*, (Wash.), 35 P. 601.
*State v. American Fruit Growers*, (Wash.), 237 P. 498–500.
*Dickey v. Maddux*, (Wash.), 93 P. 1090–1091.

This rule is supported by decisions in a majority of the states.

*Hudson v. Dailey*, (Cal.), 105 P. 748–753.
*Roberts v. Gribble*, (Utah), 134 P. 1014.
*Bryan v. Quinlan*, (Mont.), 124 P. 512.
*Horne v. Utah Oil Refining Co.*, (Utah), 202 P. 815.
Farnham, Waters & Water Rights, Vol. 3, p. 2713, § 936.
Kinney, Irrigation & Water Rights, (2d Ed.), Vol. 2, p. 2164.

It must be observed that in the case at bar the undisputed evidence is:

> "* * * None of the irrigation wells furnish water for land other than that of the owner of the well. All of the pumping operations are for irrigating the overlying land owned by the well owners" (Or. Abs., Perry, p. 49).

In the case of *Snake Creek M. & T. Co. v. Midway Irr. Co.*, 260 U. S. 596, affirming 271 Fed. 157, it is held that, where a landowner develops underground water to an extent that it interferes with the flow of a stream and deprives prior irrigators of the use of that water, such landowner's sale of such water for use on distant lands is not a reasonable or beneficial use. This case adopts the American rule, as stated by the federal circuit court of appeals as follows:

> "(4) The rule generally adopted by, not only the courts of the arid states, but by most of the American courts, so that it may be said to be the American, as distinguished from the English rule, is that, while the owner of the land is entitled to appropriate subterranean or other waters accumulating on his land, which thereby become a part of the realty, he can not extract and appropriate them in excess of a reasonable and beneficial use upon the land he owns, unconnected with the beneficial use of the land, especially if the exercise of such use in excess of the reasonable and beneficial use is injurious to others, who have substantial rights to the water. * * *" Midway Irr. Co. et al. v. Snake Creek Mining & Tunnel Co., 271 Fed. 157 at 162 and 163.

The basis of decision in this case was that the attempted appropriation of the percolating waters by the mining company was not for use on overlying lands

but for conveyance and use upon distant lands, and for a use foreign to the business of the mining company, and such an appropriation of percolating waters interfered with long-established development. Such a use was not a reasonable and beneficial use upon the lands the mining company owned.

The language of the circuit court of appeals is direct authority for Oregon's contention in the case at bar that the owner of the overlying land has a right to the use of percolating water so long as his use is reasonable and beneficial, and confined to the overlying land, even though such use interferes with the supply of a surface stream.

In recent years there has been a tendency in some western states, led by California with the case of *Katz v. Walkinshaw*, 70 Pac. 663, 74 Pac. 766, to depart from the "American rule", and adopt what has come to be known as "correlative use". The history and development of this rule is discussed in 2 Wiel, Water Rights in the Western States, (3d Ed.), pages 970 et seq., who describes his conclusions on pages 1007 and 1008 with respect to the California rule, and is thoroughly discussed in the case of *Horne v. Utah Oil Refining Co.*, (Utah, 1921), 202 Pac. 815, 819 to 824. We think this rule with respect to percolating waters is to the effect that the owners of land overlying a stratum of water-bearing gravel or soil have the right to capture such percolating waters and apply them to use upon the overlying lands, this right being limited to a reasonable use, and, in case of shortage, the right being limited to the use of a supply proportionate to the acreage of overlying land owned by each; but the right of use on overlying land be-

ing superior to the right of conveying the water for use upon distant lands.

Oregon has never adopted this rule. Washington, in the case of *Patrick v. Smith*, 134 P. 1076–1079, has indicated their adherence to it:

> "* * * Although the new rule of percolating waters is firmly established in California, Washington is the only other western state in which it has been followed. * * *" Chandler, Elements of Western Water Law (Revised Ed.), p. 30.

The application of such a rule in this case, however, can not avail Washington or secure her any relief. It is pointed out in 2 Wiel, Water Rights in Western States, (3d Ed.), 1025 and 1026:

> "The result is that approaching percolations feeding a surface body of water and essential to its maintenance belong to the owners of that surface body, as in the case of the sub-flow, and can not be taken from them otherwise than in the reasonable use of one's own land where the underground water is thus taken.
>
> "In the reasonable use of one's own land any dimunition of the stream is *damnum absque injuria*. * * *"

Two cases which Washington fails to cite and which apparently tend more to support their theory than any of the others are *Los Angeles v. Pomeroy*, (Cal.), 57 Pac. 585, in which the California court held that the water in the San Fernando valley was sub-flow of the Los Angeles river, and the case of *City of Los Angeles v. Hunter*, 105 Pac. 755, in which the California court held that the San Fernando valley is the great natural reservoir and supply of the Los Angeles river. Neither

of these cases has any effect upon the case at bar, because the conditions upon which it was decided are not shown to exist in the present case.

In the case of *Maricopa County Etc. v. Southwestern Cotton Co.* (Ariz.), 4 Pac. (2d) 369, the Arizona supreme court distinguishes the California cases from one such as the case at bar. It was required to pass upon a state of facts a great deal like those in the instant case. The court thoroughly discussed the rules applying to percolating waters, and on page 378 of the opinion discusses the facts, saying:

> "Underlying substantially the entire valley at a depth of from a few feet to perhaps a hundred or more is found an immense quantity of subterranean water, which extends downward into the earth to a great distance. There is apparently a slow but steady movement of this entire quantity of water southwesterly until it presumably reaches and mingles with underground water of the Gila valley. So far as surface indications show, there are no underground channels of running water in the sense defined above, under, or near any of the land of plaintiff's except directly beneath the surface bed of the Agua Fria river. * * * Whenever, therefore, any of the rivers in question carries water enough to flow from the mountains, a great percentage of this water sinks into the more or less permeable material with which the valley is filled, and since it slopes in a more or less general direction toward the Gila valley, these waters gradually move in that direction. Since detritus with which the valley is filled is coarser in some places than in others, the tendency of the water is to accumulate in a greater quantity where the material is coarse than where it is fine, and to move more rapidly therein. * * *"

The court discusses the California cases upon the subject, and concludes, on page 381, that *Los Angeles v. Pomeroy*, supra, has no application because the water did not constitute the sub-flow of the river, since:

> "* * * There is not the slightest evidence that their pumping diminishes directly or appreciably the surface flow, no matter how true may be the converse."

and on pages 381 and 382 the court distinguishes the case of *Los Angeles v. Hunter*, supra, because the California court found the San Fernando valley to be a reservoir, and said:

> "* * * The waters of the San Fernando valley, therefore, are not percolating waters in the common sense of the term—vagrant, wandering drops moving by gravity in any and every direction along the line of least resistance."

The Arizona court then points out that, under facts closely parallel with those covering the underground water in the case at bar, the California cases can have no application, saying on page 382:

> "(25) But whether or not under the facts the San Fernando valley is indeed a lake, supplying the Los Angeles river, the evidence in this case shows conclusively one fact which negatives the theory that the water involved herein constitutes a lake of appropriable water under the law of Arizona. The surface of the water underlying plaintiffs' lands, and indeed under the entire valley, so far as it is known, instead of being perpendicular to a radius of the earth, as is invariably the case with a surface lake, has a decided slope or dip to the south and west. Whatever this water may be, it is not a 'lake' in the sense in which our statutes use the word.

> Whether it be diffused percolation in the common-law sense of the term, as defined in City of Los Angeles v. Hunter, supra, so that the extreme English doctrine applies thereto, or whether it be percolating waters whose extraction will tap other waters, and it therefore comes within the doctrine of correlative rights as developed in Katz v. Walkinshaw, and other cases which follow it, is immaterial in this instance, for neither class is subject to appropriation under the law of Arizona, which limits that right, so far as subterranean waters are concerned, to those similar to appropriable surface waters. Plaintiffs can claim no rights of appropriation to the waters pumped by them as a subflow of the Agua Fria river except such as comply with the test above laid down, to wit, that they are in the bed of the river, or so near thereto that the pumping from them will appreciably deplete the waters of the surface stream."

In the case at bar the testimony of Mr. Piper above referred to shows that in this case there is no underground reservoir; the waters are not the sub-flow of the river, since they are percolating radially away from it; that the ground water is apparently in the shape of a "hill of water", lending no support to the surface stream but sloping away therefrom, and the evidence shows that the waters are pumped for use only on overlying lands. It would necessarily follow that, so long as that use is reasonable, the state of Washington has suffered no actionable injury, and has shown no ground for interference in any way with Oregon's use of wells.

Under all rules governing the use of percolating waters, the old common-law or English rule, the American rule, the rule of reasonable use, and the rule of correlative use, the courts have at all times recognized

the right of the overlying land to make reasonable use of percolating waters by reason of their strategic location, and the fact that nature had given the lands the benefit of the flow and natural advantage of its use.

The case at bar must be distinguished from all cases involving the right to pump underground water for conveyance to, and use upon, distant lands. Oregon's use is entirely upon overlying land.

Whether the court applies in this case the "American rule" (acknowledged in both Oregon and Washington), or the rule of "correlative use" (to which Washington apparently subscribes in later years) the result is the same.

Washington, not having shown that Oregon's use on overlying lands is unreasonable, and not having shown that Oregon's use on overlying lands results in any real injury to the state of Washington, has failed to meet the heavy burden of proof under which she labors, and her alleged injury, if any, must be held to be "*damnum absque injuria*".

The record does not furnish a basis for regulation of, or interference with, Oregon's use of well water for irrigation on overlying lands.

### 5. Prescription and Adverse Use.

Oregon contends that having taken and beneficially used all of the water of the Walla Walla river in Oregon, necessary to irrigate its lands (even to the extent of drying up the stream each year after the subsiding of the spring floods), for a period of more than 50 years, and having done so openly, notoriously, adversely, hostilely, continuously, and under a claim of right; and, during the same time, Washington having

been deprived of the use of such water and having never asserted any claim of right thereto, or interrupted Oregon's use thereof, the citizens of Oregon so using the water have acquired vested rights thereto by adverse possession and prescription (Ans. pp. 8, 9, 18, 23, 24, and 26; see also Statement of Issues, Stipulation No. 10).

Washington contends that because of the maxim "*nullum tempus occurrit regi*", and because the state of Washington is complainant, there can be no title by adverse use and prescription (see Washington Brief, p. 77, and Brief on Motion to Strike, pp. 14 et seq.)

It has been directly held that the maxim has no application between states, and only applies to suits between subject and sovereign:

> "* * * Assuming that the holding of stock in the Louisville & Nashville Railroad Company by the city of Louisville is not merely a private property right, but is a public right, and is the exercise of governmental powers pertaining to sovereignty, the maxim, 'nullum tempus occurrit regi', is not applicable. This maxim is applied only to the sovereign or government that has enacted the limitation act. If foreign nations, subjects or citizens thereof, or municipalities deriving their power from a country other than that which has the act of limitation, seek the tribunals of the latter country, they are not entitled to apply this maxim, and will not be excepted from the limitation, unless the act of limitation excepts them in terms. The states of this Union, as between each other, or as between them and the United States, are not excepted from acts of limitation as to bringing suit, by the application of this maxim. * * *" Commissioner, etc. of Louisville v. Buckner, 48 Fed. 533–536.
>
> "* * * The earlier writers on international law have questioned how far that peculiar species of

presumption, arising from lapse of time, which is called prescription, is justly applicable as between nation and nation; but the constant and approved practice of nations shows that, by whatever name it be called, the uninterrupted possession of territory, or other property, for a certain length of time by one state, excludes the claim of every other, in the same manner as, by the law of nature and the municipal code of every civilized nation, a similar possession by an individual excludes the claim of every other person to the article of property in question. The rule is founded upon the supposition, confirmed by constant experience, that every person will naturally seek to enjoy that which belongs to him; and the inference fairly to be drawn from his silence and neglect of the original defect of his title, or his intention to relinquish it." Wheaton's International Law (6 Eng. Ed.) Vol. 1, p. 336.

Hall, International Law, 7th Edition, p. 120, says:

"* * * Title by prescription arises out of a long continued possession, where no original source of proprietary right can be shown to exist, or where possession in the first instance being wrongful, the legitimate proprietor has neglected to assert his right, or has been unable to do so."

See also:

Oppenheim's International Law (McNair) (4th Ed.) Vol. 1, pp. 467 to 471.

Hyde, International Law (1922) Vol. 1, pp. 192 to 196, Sec. 116.

59 C. J. 51.

Honnold, Supreme Court Law, Vol. 1, pp. 65 and 66, says:

"1. Right may be acquired on the one hand and lost on the other by open, long-continued and uninterrupted possession of land or territory.

"2. This doctrine is not confined to individuals, but applies to sovereign nations and states as well."

In the note to paragraph 2, p. 66, he says:

"* * * It is applicable to the quasi sovereign states of the Union. The rule, long settled and never doubted, is that long acquiscence by one state in the possession of territory by another and in the exercise of sovereignty and dominion over it is conclusive of the latter's title and rightful authority. State of Michigan v. State of Wisconsin, 270 U. S. 295, 46 S. Ct. 290, 70 L. Ed. 595; Indiana v. Kentucky, 136 U. S. 479, 509, 10 S. Ct. 1051, 34 L. Ed. 329 et seq.; Virginia v. Tennessee, 148 U. S. 503, 522, 13 S. Ct. 728, 37 L. Ed. 537; Louisiana v. Mississippi, 202 U. S. 1, 53, 26 S. Ct. 408, 50 L. Ed. 913; Maryland v. West Virginia, 217 U. S. 1, 40, 44, 30 S. Ct. 268, 54 L. Ed. 645; Rhode Island v. Massachusetts, 4 How. 591, 639, 11 L. Ed. 1116; Missouri v. Iowa, 7 How. 660, 677, 12 L. Ed. 861; New Mexico v. Colorado, 267 U. S. 30, 40, 41, 45 S. Ct. 202, 69 L. Ed. 499.

"The law of prescription applies to nations with the same effect as between individuals. Phillips v. Payne, 92 U. S. 130, 23 L. Ed. 649; Lawrence, Wheat. 303, 304; Vatt., b. 2, ch. 11, §§ 141, 147, 149."

This court holds:

"The effect to be given to such facts as long continued possession 'gradually ripening into that condition which is in conformity with international order', depends upon the merit of individual cases as they arise. 1 Oppenheim International Law, § 243.

In this case we think a right, in its nature prescriptive, has arisen, practically undisturbed for many years, not to be overthrown without doing violence to principles of established right and justice equally binding upon States and individuals. Rhode Island v. Massachusetts, 12 Pet. 657. * * *" Maryland v. West Virginia, 217 U. S., 1–42, 43 and 44.

Again in the case of *Rhode Island v. Massachusetts*, 14 Pet. 210–260, the court said:

"The possession of more than 100 years would become a rightful one by prescription, even if it had begun in wrong and injustice."

See also *Washington v. Oregon*, 214 U. S. 205–216, 217, where the court held title by prescription to have been acquired by Oregon as against the state of Washington.

The case of *Missouri v. Illinois*, 200 U. S. 496, 520, cited by Washington, is direct authority for the proposition that the rule which prevents a subject from acquiring a right by prescription as against his sovereign has no application to a state in a suit against another state.

If any individual irrigator in Washington sued an Oregon irrigator, in a state court or a federal district court, to determine their relative rights to the use of the waters of the Walla Walla river, the Oregon irrigator would unquestionably be entitled to avail himself of the defenses of limitation, adverse user, and prescription.

"It seems, however, that if a sovereign state enters the courts of a foreign state, it does so with no other rights and immunities than those which pertain to private corporations or individuals." 17 R. C. L. 971, § 344.

If the state of Washington had elected to sue the state of Oregon or any of its irrigators in the courts of the state of Oregon, the defense of limitation, adverse user, and prescription would be available.

It is not conceivable that either Oregon or its irrigators are deprived of these defenses because the state of Washington chose the supreme court of the United States as the forum.

In both Oregon and Washington rights to the use of water may be acquired by adverse use and prescription.

Section 1-202, Oregon Code 1930, and Remington's Revised Statutes of Washington, section 156, alike provide that no action shall be maintained for the recovery of real property unless it appears that the plaintiff, his ancestor, predecessor or grantor was seized or possessed of the premises in question within 10 years before the commencement of such action. Under these sections it is held that:

(1) Non-user of water rights by the owner, and adverse user by another, for a period equal to the limitation of actions for the recovery of real property, creates adverse title.

*Dodge v. Marsden*, 7 Or. 456.
*Weimer v. Simmons*, 27 Or. 1, 39 Pac. 6, 50 A. S. R. 685.
*Allen v. Roseburg*, 70 Wash. 422, 126 Pac. 900, 902.
*Madison v. McNeal* (Wash.), 19 P. (2d) 97.

(2) Adverse use of water rights is initiated when the owners are deprived of its use in such a substantial manner as to notify them that their rights are being invaded.

*North Powder Milling Co. v. Coughenour*, 34 Or. 9, 54 P. 223.
*McCoy v. Huntley*, 60 Or. 372, 119 P. 481.
*Watts v. Spencer*, 51 Or. 262, 94 P. 39.
*Davis v. Chamberlain*, 51 Or. 304, 98 P. 154.
*Hough v. Porter*, 51 Or. 318, 95 P. 732, 98 P. 1083, 102 P. 728.
*St. Martin v. Skamania Co.*, 79 Wash. 393, 140 P. 355.
*In re Ahtamun Creek*, 139 Wash. 84, 245 P. 758, 762.
*In re Alpowa Creek*, 129 Wash. 9, 224 P. 29, 129.
*Smith v. Nichanicky*, 123 Wash. 8, 211 Pac. 880.

(3) To constitute title by adverse possession, such possession must have been open, notorious, exclusive, hostile, and under a claim of right and continuous for the period of 10 years.

*Smith v. Nichanicky*, 123 Wash. 8, 211 P. 880.
*Berryman v. East Hoquiam Logging Co.*, 68 Wash. 657, 124 P. 130.
*Farwell v. Brisson*, 66 Wash. 305, 119 P. 814.
*Gardner v. Wright*, 49 Or. 609, 91 P. 286.
*Ebell v. Baker City*, 137 Or. 427, 299 P. 313.
*In re North Powder River*, 75 Or. 83, 146 P. 475.

(4) It is not necessary that the interference with the other appropriators' use be continuous throughout the year. A prescriptive right to the use of water during certain seasons of the year may be acquired, although during other seasons of the year there is ample water to supply all parties.

*Gardner v. Wright*, 49 Or. 609–629, 91 P. 286.
*In re North Powder River*, 75 Or. 83, 98 to 100, 146 P. 475.
*Bonifacich v. Cummings*, 111 Or. 555, 227 P. 469.
*Simpson v. Bankofier*, 141 Or. 426, 16 P. (2d) 632.
*Davis v. Chamberlain*, 51 Or. 304–314, 98 P. 154.
*In re Squillchuck Creek* (Wash.), 152 Wash. 443, 278 P. 147.

Where an individual water user in one state brings a suit against an individual water user of another state, rights acquired by adverse possession and prescription are recognized. In the case of *Morris v. Bean*, 146 Fed. 423, 433, the court discusses adverse possession of water, but holds that the facts in that case were not sufficient to establish the right. There was no discussion as to the laws of which state should apply.

In the case at bar the diversion occurred in Oregon, and the adverse use was in Oregon.

In the case of *Stillman v. Whiterock Manufacturing Company*, 3 Woodb. & M. 539, 23 Federal case No. 13,446, the complainants owned a dam and water power with adjacent land in Connecticut upon a river which is the dividing line from Rhode Island. The respondents

on the Rhode Island side owned land, a dam, and water power. The respondents diverted water to the injury of the complainant. The court held that the Statute of Limitations in Rhode Island applied and that the Statute of Limitations of Connecticut did not govern the case. In Connecticut adverse possession for 15 years gave title; in Rhode Island 20 years adverse possession was required. The respondent had shown adverse possession for 17 years and claimed title by reason of the Connecticut statute.

The court discusses the rights of the Connecticut user in and to the river and holds that the diversion being in Rhode Island the injury to the right occurred in Rhode Island, and that the Rhode Island courts and the United States district court had jurisdiction thereof, and the Rhode Island laws applied; therefore, the adverse possession being only for 17 years, the time for acquiring title in that manner had not yet expired under the Rhode Island laws. In discussing the case the court said:

> "If in a case like this, for instance, they (complainants) were willing to look on and see nearly half the water which they were entitled to have taken away entirely, and not remonstrate for 20 years, they ought to lose these rights for the public quiet, and the presumption should be, that they had conveyed the right or title as much as if without complaint they saw their field ploughed and reaped for 20 years by others."

The rights of the citizens of Oregon, therefore, acquired by adverse use must be determined by the laws of Oregon.

Complainant in its brief (p. 48) states that it is well-established law that the validity of a appropriation is

governed by the law of the state where the appropriation is made and cites authority therefor. In like manner the validity of title to water by adverse possession is governed by the law of the state wherein such adverse possession occurs, even though in the controversy both states may have the same rules of law governing the acquiring of such rights.

In Oregon title acquired by adverse possession for 10 years is as complete as though conveyed by deed from the owner (*Ebell v. City of Baker*, 137 Or. 427, 229 P. 313).

A glance at Washington's Exhibit 17 will show that any water reaching Washington for irrigation purposes must either come from the various spring branches arising generally in Sections 23 and 24 of Tp. 6 N., R. 35 East, or go down the main channel of the Tum-a-lum river, or through the channel which connects the Crocketts with the East Prong of the Little Walla Walla Spring branch, or that channel which connects the combined Ford and Crockett branches with the West Prong Little Walla Walla Spring branch.

It will also show that in the SW¼ NE¼ of Sec. 12, Tp. 5 N., R. 35 E., the Little Walla Walla and Tum-a-lum river divide. A bridge, known in the testimony as the "Red bridge" (Or. Ex. 45), is located at this point. The East Side Ditch Company's ditch takes out of the Tum-a-lum river in the NW¼ of the NW¼ of Sec. 1, Tp. 5 N., R. 35 E., and near this point is what is known in the testimony as the "Nursery bridge", and also a "Railroad bridge" (Or. Ex. 45). Just below these bridges the Hudson Bay Company's canal, which runs from the Tum-a-lum to the Little Walla Walla river, takes out of the Tum-a-lum and empties into the Little Walla Walla

above what is known as the "Frog" near the SE¼ of the NW¼ of Sec. 2, Tp. 5 N., R. 35 E. On the line between Secs. 24 and 25, Tp. 6 N., R. 35 E., is what is known as the "McCoy bridge" (Or. Ex. 45). It is at this point that springs arise in the channel of the river. Therefore, if the entire flow of the Walla Walla river is diverted at the Hudson Bay canal near the Nursery bridge no water flows down through that channel through Secs. 36 and 25 in Tp. 6 N., R. 35 E.

Every diverter in Oregon is an up-river diverter so far as the Washington users of water from the Walla Walla river are concerned, and the water they use is diverted from the stream and can not flow down to the Washington users.

Any diversion by an upper appropriator is adverse, if it limits the lower appropriator's use.

*Norwood v. Eastern Oregon Land Co.*, 112 Or. 106, 227 P. 111.
*Hough v. Porter*, 51 Or 318, 433, 95 P. 732, 98 P. 1083, 102 P. 728.
*Farwell v. Brisson*, 66 Wash. 305, 119 P. 814, 815.

The Peacock Milling Company diverts for water power from the Tum-a-lum river and discharges into the Little Walla Walla 56.25 c.f.s. with a priority of 1888, and 12.5 c.f.s. with a priority of 1898 (Oregon Decree, Wash. Ex. 1, proof No. 620, p. 207). This water does not again reach the Tum-a-lum river, and is all used ir irrigation and does not reach the Washington irrigators.

From the earliest days on, the water diverted for power by the Miller mill and the shingle mill was diverted from the main stream and discharged into the Little Walla Walla (Or. Abs., Forsythe, p. 27; Mason, p. 54).

Since before 1880 and to the present time, the irrigators in Oregon have diverted all water, except that required for the East Side Ditch Company, from the Tum-a-lum river into the Little Walla Walla river.

Whatever was permitted to flow down past the East Side diversion was taken by the Hudson Bay through their canal from the Tum-a-lum to the Little Walla river (Or. Abs., Burlingame, p. 22; Bowman, p. 24; Perry, p. 49; Spencer, p. 144).

Burlingame testified that Gardena had never had the use of any water from the Walla Walla river in Oregon during June, July, and August, excepting that which rose below the McCoy bridge (Or. Abs., p. 23).

Due to the nature of the stream bed the water would not flow to Gardena or Washington if turned down during the dry season (Or. Abs., Alta Rogers, pp. 33 and 34).

During the dry season when water has been permitted to flow down past the Hudson Bay headgate in the Tum-a-lum river, none of it has ever reached through to Gardena, and they have never had use of any water flowing down the Tum-a-lum during the dry season (Or. Abs., Burlingame, p. 23; Bowman, p. 24).

C. P. Hartvedt testified for Washington that by agreement in 1918 water was turned down the Tum-a-lum (Wash. Nar. Test., 64), and although he said that the water turned down reached Gardena the next day no hydrographic record could be produced to show

this, and he admitted he had no record showing any such increase (Wash. Nar. Test., pp. 66 to 68).

Dr. Woodburn testified that in 1932, Humphrey and himself turned down 20 c.f.s. which did not go through (Wash. Nar. Test., p. 144), and that in 1933 there flowed 19 c.f.s one day, 21 c.f.s. the next day, and 25 c.f.s. the third day, and the water had not gotten through (Wash. Nar. Test., p. 142). He did not know how much would be required to be turned down in order to get 22 c.f.s. through in July, but he said it would not be economical to attempt to get 22 c.f.s. feet of water down the Tum-a-lum (Wash. Nar. Test., p. 145).

Orrin Bowman testified that in 1928 they turned down 25 c.f.s. and after two days running it had not reached the McCoy bridge, but had disappeared; and that although flash boards were torn off their dams, either by persons or by logs coming down the stream, they had never remained out as much as two days (Or. Abs., pp. 24 and 25). Therefore, the water could not have gotten through.

The testimony and the hydrographic data show that Oregon has administered and used, during the dry season, all of the water flowing in the Walla Walla river, and permitted none to go down to the sink in the Tum-a-lum river. In effect, they are doing the same in Oregon as they do in Washington. Oregon is administering separately that part of the stream which is above the sink in the channel between the Nursery bridge and the McCoy bridge. Washington does the same thing with Mill creek by administering separately that part above the sink at Gose street (Wash. Nar. Test., pp. 37 and 40).

Washington's Exhibit 18, pp. 120 to 130, shows that the Hudson Bay ditch went dry before July 1 in all save

five of the years covered by the measurements, and that in some years carried so little water as to be practically dry before that date. In most years, for more than a month before it actually went dry, the ditch carried far less than 75 c.f.s. decreed to the company.

The testimony of Bowman is uncontradicted that at low-water time he sealed the Tum-a-lum dam tight and diverted all water from the Tum-a-lum into the Little Walla Walla river. It must therefore be apparent, in the absence of any contrary testimony, whatsoever, that when the Hudson Bay ditch was running very far below its allowance of 75 second-feet there was no water flowing between the Nursery bridge and the McCoy bridge.

Washington's Exhibit 27 (R. pp. 203 to 207) shows the dates in each year when Harlow Barney began to close off rights having later priority than 1892, for the purpose of supplying Gardena, as follows: June 1, 1929; June 10, 1930; May 26, 1931; June 27, 1932; July 9, 1933.

It is manifest that Oregon used all of the water in the Walla Walla river in Oregon, and turned the river dry each year regardless of Washington's needs. That the water was taken openly is shown by the testimony that so much was taken as to entirely dry up the stream.

It is also shown by the testimony of the various Washington users that from the time Washington began to administer its water rights according to priority their farms were so dried up that they had to entirely change their methods of farming and their crops. (Wash. Nar. Test., J. C. Hammer, p. 25; Cundiff and Hasting, pp. 46, 47; Walter Sams, p. 48; Ralph Danielson, p. 50; Carl Ross, pp. 27, 28; Royal Ross, pp. 31,

31, 32; Iver Williams, p. 33; Fred Dill, p. 44; Clifford C. Riggs, p. 52; Lee Smith, pp. 56, 59).

There is far more convincing proof that Washington was short of water for years to be found in Stipulation No. 5, Exhibit F (R. 44, 45), which shows that beginning with 1905 (the first year of any irrigation in Gardena proper) the company started to spend money on wells, and spent a total of $9,986.33, and in 1907 they spent $798 in attempting to secure reservoir sites, and beginning with 1910 they spent a total of $49,-255.92 to convey sewage water. The testimony of Mr. Burlingame confirms this (Or. Abs., p. 22).

Stipulation No. 5 (R. 29 to 37) shows that in 1917 Gardena had contracts for 3,721.36 acres. By their decree this amount would have entitled them to 37.21 c.f.s. from July 1 to August 1. Washington's Exhibit 18 (page 13) shows that beginning with July 19, and from then on, they were short.

Stipulation No. 5 shows contracts outstanding for 3,711.14 acres in 1918. By their decree from April 1 to July 1 they would have been entitled to 49.48 c.f.s. However, beginning June 17 they were cut down to 39.20 c.f.s. From July 1 to October 1 they would have been entitled to 37.11 c.f.s., but they never had that much.

Stipulation No. 5 shows contracts outstanding in 1919 for 4,186.12 acres which would have entitled them to 55.81 c.f.s. during the month of June. Washington's Exhibit 18, page 17, shows that from June 19 on they were short. From July 1 to October 1 they would have been entitled to 41.86 c.f.s., but Washington's Exhibit 18, page 18, shows that after July 1 they were short.

In 1922, Stipulation No. 5 shows contracts sold for 4,960.26 acres, which by decree would have allowed them 60.40 c.f.s. during the month of June. Exhibit 18, page 19, shows that after June 21, they were short of this amount. From July 1 to October 1 they would have been entitled to 35.30 c.f.s. Exhibit 18, page 19, shows that they were short, although they were receiving 3.08 c.f.s. of sewage.

Based upon the acreage contracted for in 1926 as shown by the stipulation, Gardena, under their decree, would have been entitled to 60.40 second-feet during the month of June. Washington's Exhibit 18, page 20, shows that during the month of June there was but one measurement taken, and they were short.

In 1927, Washington's Exhibit 18, page 20, shows Gardena to have on July 22 less than one-third of the water they were entitled to. The record does not show how long that shortage had existed.

In 1928, Washington's Exhibit 18, page 20, shows Gardena to have been short from June 16 on.

In 1929, Washington's Exhibit 18, page 20 shows Gardena to have been short from June 18 on.

In 1930, Washington's Exhibit 18, page 21, shows Gardena to have been short from June 22 on.

In 1931, Washington's Exhibit 18, page 21, shows Gardena to have been short from May 30 on.

In 1932, Washington's Exhibit 18, page 11, shows Gardena to have been short from July 9 on, and to have been short on June 28, 29, and 30.

In 1933, Washington's Exhibit 18, page 12, shows Gardena to have been short from July 14 on.

The citizens of Washington knew of the Oregon diversion. Riggs and others went into Oregon to in-

vestigate in April, 1930, and found the stream dry and all water diverted (Wash. Nar. Test., p. 52). Hartvedt went into Oregon to investigate in 1918 and also in 1930 and found all water then diverted (Wash. Nar. Test., pp. 64 and 67). Burlingame, a Washington citizen, and the builder of the Gardena system, about the year 1905, and often thereafter, went up the river "above the McCoy bridge clear up to the East Side ditch looking for hostile diversions—if someone was taking the water that belonged to us". The Tum-a-lum was dry (Or. Abs., 1, p. 21). Harlow Barney knew from 1920 on that the Oregon irrigators diverted all the water from the Tum-a-lum into the Little Walla Walla (Wash. Nar. Test., pp. 41 and 42):

The great development in Oregon with the attending commercial relations between the communities and the paved highways for inter-communication, all the result of Oregon's use of water, could not have escaped the notice of Washington.

In 1905 the Finis Irrigation Company case was started in the Oregon court. The decree is in evidence as Oregon's Exhibit No. 31, and adjudicates water rights of Oregon users, and awards a total quantity of water far in excess of the amount that would flow during the irrigation season. Here was an open assertion of a right in the highest court of the state of Oregon. The water masters began to administer under that decree as early as 1913, and have administered under it continuously ever since (Or. Abs., Roeder, p. 41; Perry, p. 46; Mason, p. 52; Spencer, p. 142; Oregon Ex. 32).

It is obvious that the administration of that decree during the irrigation season did use up all water

flowing in the stream for more than 21 years; therefore, Oregon has taken and used under claim of right openly, notoriously, hostilely, and continuously through the dry season of each year all of the water flowing in the stream. Testimony previously referred to shows this was done from 1880 on.

The Washington users, by such assertion of right and use of water on the part of Oregon, could not help but have been deprived of the use of the water, and when the water stopped flowing they could not help but know that Oregon was taking it. As a matter of fact, they were going up the river to ascertain what had become of the water.

From the time water masters went on (in 1913) all during the dry season each summer they, as officers of the state of Oregon, turned the water out of the Tum-a-lum and into the Little Walla Walla so that none went down to Washington (Or. Abs., Roeder, p. 43; Perry, pp. 47 and 49; Mason, pp. 54 and 55; Spencer, pp. 142 and 144). Thus we see that both the irrigators and the state itself have asserted and held the right to the use of this water.

Stipulation No. 3 affords some index as to what the Oregon people have done by the use of this water in paragraphs III, IV, and V. Obviously, this has been done in reliance upon the right to the use of this water since all of the development would be valueless if the water were taken away.

The record does not show that the state of Washington has ever at any time protested against this use of water or sought to prevent it, although a glance at the map is sufficient to show that this development could not have been made in Oregon without the knowledge

of the Washington people and officials. We know from the testimony of Burlingame, a Washington citizen and the man actually in charge of the development of the one project in the state of Washington (for the benefit of which this suit was brought), that he knew the water was short and felt the need of it. We have his testimony, and the evidence of exhibit "F" attached to Stipulation No. 5, that because of their shortage of water the Washington citizens as far back as 1905, were spending thousands of dollars to procure water from other sources.

There is no escaping the conclusion that the state of Washington felt Oregon's adverse use of this water. There is no escaping the conclusion that they knew of the great development going on in Oregon, and there is no escaping the conclusion that they remained quiet and made no effort to prevent development and investment in Oregon in reliance upon the use of this water.

## Estoppel.

As we have before pointed out, Stipulation No. 3 indicates a high development by intensive farming in Oregon. The admitted allegations of the Bill of Complaint establish that this development is dependent upon the use of water.

The map (Wash. Ex. 17) shows the close proximity of the Oregon irrigated lands to the city of Walla Walla. Stipulation No. 3 shows the development of that city with the attendant growth of industry and commerce. It is self-evident that some measure of this growth and prosperity is due to the intensive farming of the Oregon lands in the related area.

Clearly the Washington citizens had some knowledge of this growth and development, and, since they

so allege, they must have known it was dependent on irrigation.

We have referred to evidence showing that the use of water in Oregon for more than 50 years has been such as to dry up the stream during a part of each year. Washington must have known this.

We have hereinbefore referred to evidence showing that Washington citizens made trips of investigation in various years, coming into Oregon and inspecting the stream. The same evidence shows that the investigators found the water diverted in Oregon to an extent that the stream was dry.

Stipulation No. 5, as well as the evidence, discloses that, from 1892 on, Burlingame was closely connected with Gardena. He built the system and farmed and still farms land irrigated through the Gardena ditch.

The evidence shows (Or. Abs., pp. 21 to 25) that in 1911 Burlingame became interested in the Milton-Freewater & Hudson Bay Irrigation Company in Oregon and acquired control. He then owned one-half of the stock in the Walla Walla Irrigation Company (then the owner of the Gardena canal) and managed the canal, and later became the sole owner. He was then and is now a citizen of Walla Walla.

The evidence referred to in our argument on adverse use and prescription shows beyond question that the Hudson Bay ditch permitted no water to flow past its headgate on the Tum-a-lum at any time it needed water to supply those irrigating from its ditch.

Although, from 1892 on, he was constructing (when construction was carried on) and managed the Gardena canal until the year 1928, when the Gardena Farms

District was formed (Stipulation No. 5), and although he was the first irrigator from the Gardena ditch (Or. Abs., p. 19), and still irrigates from that ditch, Burlingame always recognized and treated the right of the Hudson Bay Company as superior to that of Gardena and, while in control of the Hudson Bay, continued to so divert the water into that ditch as to completely dry up the Tum-a-lum each year.

He did this at the time he was directing the Walla Walla Irrigation Company's expenditure of large sums of money to secure water from other sources (wells and sewage), to supply the needs of Gardena, and even after these efforts to secure other water had failed.

We have in this brief referred to testimony showing that Washington irrigators were so short of water as to be compelled to change their crops and that in Gardena the shortage was such that only the perishable crops could be irrigated and the main crops were without water during the dry season.

Under these circumstances, it is interesting to note that the state of Washington and its citizens made no protest against Oregon's diversion and use of water, made no demand for any change therein, or for Oregon to permit additional water to flow down to Washington until 1930, when the demand was made by Harlow Barney (Wash. Nar. Test., p. 39; Or. Abs., Perry, p. 49), and the telegrams (Wash. Ex. 24, 25 and 26) were interchanged as the basis for this suit.

Washington's conduct can be taken as nothing other than acquiescence in Oregon's diversion and use, and a recognition that Oregon's use was rightful.

Relying upon this long acquiescence in and recognition of Oregon's rights by the state of Washington and

its citizens, the water users of Oregon were induced to believe and did believe that their rights were secure, and were led to and did make large expenditures of money and labor in developing their farms and communities and building their homes and public improvements as shown by Stipulation No. 3 (Or. Abs., pp. 6 to 9, inclusive).

Oregon and its citizens will be irreparably damaged if Washington is now permitted to change its position. Under the circumstances, if Washington or its citizens claimed any rights as against Oregon it was their duty to speak.

> "Again, where the evidence is conclusive that the owner, knowing that his rights were about to be invaded by another, stood by and permitted the other parties to construct expensive works, use, and enjoy the rights, and by his actions assented and invited such works and use, although he did not do so in terms, but by his very silence, he induces them to believe that such rights might be acquired, that thereafterward to deprive them of such rights would work an injustice and fraud upon them, such owner will be held to be estopped from setting up or claiming such rights. * * *" 2 Kinney on Irrigation & Water Rights, (2d Ed.), § 1127, at page 2040.

The complainant seeks injunctive relief. The rule as to estoppel in such cases is well stated in *Katz v. Walkinshaw*, 74 Pac. 766 at 772, as follows:

> "* * * Where the complainant has stood by while the development was made for public use, and has suffered it to proceed at large expense to successful operation, having reasonable cause to believe it would affect his own water supply, the injunction should be refused, and the party left to his action for such damages as he can prove."

See also *Barton v. Riverside Water Co.*, (Cal.) 101 Pac. 790 at 792, and *Crescent Canal Co. v. Montgomery*, 76 Pac. 1082 at 1084.

**Separate Administration in Oregon.**

Testimony heretofore recounted shows that the Tum-a-lum, or the main stream of the Walla Walla river in Oregon, was turned dry each year by the diversion of the water into the Little Walla Walla at the Red bridge, and the further diversions of the East Side ditch and the Hudson Bay ditch. The diversion into the Little Walla Walla from the main stream was practiced at the time the oldest witness (William Forsythe, who came to the country in 1879) knew anything about the stream (Or. Abs., pp. 25, 26 and 27), and has been continued up to the present time. Such practice has changed the character of the main stream and has made the Little Walla Walla into the main stream.

Whether considered under the Statute of Limitations, adverse use, laches, or estoppel, the courts of both Washington and Oregon have held that such diversion changes the main channel and thereby modifies the lower water users' rights and prevents the acquisition by a lower apropriator of rights on the main stream.

In *Harrington v. Demaris*, 46 Or. 111 (76 Pac. 603, 82 Pac. 14), at page 119 of the Oregon Reports, the court approves the case of *Burk v. Simonson*, 104 Ind. 178, and says:

"Where a change is made in the flow of a natural water course either artificially or otherwise, and riparian owners acquiesce in the new state of the

stream for so long a time that new rights accrue or may be presumed to have accrued, such acquiescence is binding and precludes a restoration of the stream and its surroundings to their original condition."

This holding is approved in the case of *Hough v. Porter*, 51 Or. 318 at page 415 (95 Pac. 732, 98 Pac. 1083), where the court says:

"The opening of these channels was acquiesced in by all on the stream, and since the year 1882 the water has naturally run through them in about the proportion indicated. Having flowed in this manner for more than the period prescribed by the statute of limitation they have become fixed."

The same principle is recognized by the state of Washington, in the case of *Matheson v. Ward*, 24 Wash. 407, 64 Pac. 520. The Dungeness river divided into three branches. The east branch is known as Hurd creek channel, the central branch as the East channel, and the one further west as the West channel. It was admitted that from 1865 down to 1895 no water flowed in the West channel excepting seepage and at extreme high water. In 1895 an excavation was made by persons living on the creek so that at the time of the trial the principal flow was in the West channel. The court, at page 521 of the Pacific Reporter, says:

"* * * Even if the West channel was a natural channel prior to 1865, and was then dammed up, and the water diverted to the East and Hurd's creek channels, where it was confined for 30 years, and this flow was acquiesced in by the riparian owners and others along the channels of said river, this would make the East and Hurd's creek the natural channels; and defendants and others purchasing and improving lands along the old channel, and

relying upon the flow continuing in the channels thereby formed, could not now have their lands damaged by reason of the water being turned back by artificial means after that lapse of time. After the lapse of 30 years the channels known as the 'East' and 'Hurd's creek' became natural channels, and the attempt of riparian or other owners to change the flow at this late day to the injury of persons on the old channel would be unlawful. According to the evidence it is probably true that in the year 1865 one Le Balister, by means of a dam or embankment, changed the flow of water out of the West channel. Conceding it to be so, the acquiescence by plaintiffs and their grantors and all riparian owners below the point of divergence for a period of 30 years has now lost them the right to change the flow from the new into the old channel. 28 Am. and Eng. Enc. Law, p. 964; Woodbury v. Short, 17 Vt. 387, 44 Am. Dec. 344; Ford v. White, 27 Vt. 265; Ang. Water Courses, § 108h. Gould, Water, § 159, says: 'When a stream flowing through a person's land is diverted into a new channel, either artificially or by sudden flood, affecting the rights of other riparian proprietors favorably, and the owner acquiesces in the new state of the stream for so long a time that new rights accrue, or may be presumed to have accrued, such acquiescence is binding, like a public dedication, and the stream can not be lawfully returned to its former channel.' No doubt the plaintiffs, within a reasonable time after such diversion, could have removed the obstruction placed across the West channel by Le Balister; but when, after 30 years, they undertook to do so by virtually making a new channel, they were invading the rights of those below, who had purchased lands and improved the same. * * *"

In the case at bar the acquiescence by the state of Washington and its citizens in the diversion of the Tum-a-lum or the main Walla Walla river in Oregon

into the Little Walla Walla river for a period of more than 50 years has now lost them the right to change the flow from the new into the old channel.

Testimony heretofore enumerated shows that none of the water so diverted into the Little Walla Walla river has ever reached the state of Washington during the irrigation season in any year. No rights have been acquired upon the new stream by the state of Washington, or any of its citizens. So far, therefore, as separate administration of water in Oregon or the rights of Washington and its citizens are concerned these principles of law apply with full force and effect. The courts at all times give weight to time and long usage, sometimes under the doctrine of adverse use, at other times under the doctrine of laches and acquiescence, and at still other times it is given effect by the expression that it would be inequitable not to regard it. Adverse use, prescription, estoppel, and lapse of time apply not only to individuals but to states and governments as well.

"* * * (8, 9.) But the great weight of authority, the stronger reasons and the settled rule upon this subject in the courts of the United States, is that, while mere delay does not, either by limitation or laches, or itself constitute a bar to suits and claims of a state or of the United States, yet, when a sovereignty submits itself to the jurisdiction of a court of equity and prays its aid, its claims and rights are judicable by every other principle and rule of equity applicable to the claims and rights of private parties under similar circumstances.

"(10). The equitable claims of a state or of the United States appeal to the conscience of a chancellor with the same, but with no greater or less force than would those of an individual under like cir-

cumstances. (Citing many cases.)" State of Iowa v. Carr, 191 Fed. 257–266 (cited by Washington).

"Resolute good faith should characterize the conduct of states in their dealings with individuals, and there is no reason, in morals or law that will exempt them from the doctrine of estoppel. * * *" State of Indiana v. Milk, et al., 11 Fed. 389–397.

"We think that, upon the principles stated in Missouri v. Illinois, 200 U. S. 496, 520, et seq. 50 L. Ed. 572, 578, 26 Sup. Ct. Rep. 268, the claims of the complainants should not be pressed to a logical extreme without regard to relative suffering and the time during which the complainants have let the defendants go on without complaint."

Wisconsin v. Illinois, 281 U. S. 179, 200; 74 L. Ed. 799, 805.

"Equality of right" forbids that Washington, after 50 years of silence and recognition of Oregon's rights, should now be permitted, by a claim never before asserted, to cause Oregon and its irrigators the irreparable loss and damage that would result from depriving them of the use of the waters of the Walla Walla river in Oregon.

## CONCLUSION.

We respectfully submit that complainant has failed to meet the heavy burden of proof imposed upon one sovereign state seeking relief against another, and has brought forward no adequate reason for disturbing the Master's Findings in any particular.

Under the authority of *Connecticut v. Massachusetts*, 282 U. S. 660, 669, 75 L. Ed. 603, 607, the Master's Findings should be adopted and the bill dismissed.

Respectfully submitted,

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IN THE

# Supreme Court of the United States

IN EQUITY

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No. 11, ORIGINAL

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OCTOBER TERM, 1935

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THE STATE OF WASHINGTON, COMPLAINANT,

*v.*

THE STATE OF OREGON, DEFENDANT.

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## PROOF OF MAILING DEFENDANT'S BRIEF UPON COMPLAINANT'S EXCEPTIONS TO THE REPORT OF THE SPECIAL MASTER.

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STATE OF OREGON,
County of Marion } ss.

The undersigned being first duly sworn on oath deposes and says that on the ..... day of January, 1936, at Salem, Oregon, he deposited in the United States Post Office in sealed envelopes—one addressed to "Mr. G. W. Hamilton, Attorney General, Olympia, Washington", one addressed to "Mr. Fred J. Cunningham, Attorney at Law, Old National Bank Building, Spokane, Washington", counsel for the State of Washington—true copies of the foregoing Defendant's Brief

upon Complainant's Exceptions to the Report of the Special Master in the above entitled cause.

.....,

Subscribed and sworn to before me this ..... day of January, 1936.

.....,
Notary Public for Oregon.

My commission expires .....